

SWS Silicones Corporation

ADRIAN, MICHIGAN 49221 • TELEPHONE (517) 263-5711

US EPA RECORDS CENTER REGION 5



1005993

RECEIVED

JUN 1 1983

May 23, 1983

**WASTE MANAGEMENT BRANCH
EPA, REGION V**

RCRA ACTIVITIES
Part B Permit Application
U.S. EPA, Region V
P.O. Box A 3587
Chicago, Illinois 60690-3587

Re: SWS Silicones Corporation
MID 075400671
5HW-TUB

Gentlemen:

This letter is a response to your formal request for submittal of Part B of the RCRA permit application for SWS Silicones Corporation, which was dated December 2, 1982.

Enclosed are four copies of the RCRA Part B application. We have been in contact with Mr. Allen Debus of your staff concerning this application.

If there are any questions, please contact Mr. Gordon Philbrook (517-263-5711).

Yours truly,

SWS SILICONES CORPORATION

Joseph Calamungi
Joseph Calamungi
Director of Manufacturing

JC:pb

cc: L. B. Bruner
G. C. Philbrook

received
6-1-83

COPY₂

SWS SILICONES CORPORATION

RCRA PART B APPLICATION

CONTENTS

<u>Description</u>	<u>Page</u>
A. Part A Application	A-1
B. Facility Description	B-1
B-1 General description [40 CFR Section 122.25(a)(1)]	B-1
B-2 Topographic map [40 CFR Section 122.25 (a)(19)]	B-2
B-3 Location information [40 CFR Sections 122.25(a)(11), and 264.18]	B-13
B-3a Seismic standard (reserved)	B-13
B-3b Floodplain standard	B-13
B-3b(1) Demonstration of compliance	B-13
B-3b(1)(a) Flood proofing and flood protection measures	B-13
B-3b(1)(b) Flood plain	B-13
B-3b(2) Plan for future compliance	B-13
B-4 Traffic patterns [40 CFR Sections 122.25(a)(10)]	B-13
C. Waste Characteristics	C-1
C-1 Chemical and physical analyses [40 CFR Sections 122.25(a) (2) and 264.13(a)]	C-1
C-2 Waste analysis plan [40 CFR Sections 122.25(a)(13) and 264.13(b) and (c)]	C-21
C-2a Parameters and rationale	C-21
C-2b Test methods	C-21
C-2c Sampling methods	C-21
C-2d Frequency of analyses	C-21
C-2e Additional requirements for waste generated offsite	C-21
D. Process Information	D-1
D-1 Containers [40 CFR Sections 122.25(b)(1), 264.171, 264.172, 264.173, 264.175 and 264.176]	D-1
D-1a Containers with free liquids	D-1
D-1a(1) Description of containers	D-3
D-1a(2) Container management practices	D-3
D-1a(3) Secondary containment system design and operation	D-4
D-1a(3)(a) Requirement for base to contain liquids	
D-1a(3)(b) Containment system drainage	
D-1a(3)(c) Containment system capacity	
D-1a(3)(d) Control of run-on	

Description

Page

D-1a(4) Removal of liquids from containment system	D-4
D-1b Containers without free liquids	D-5
D-1b(1) Test for free liquids	
D-1b(2) Description of containers	
D-1b(3) Container management practices	
D-1b(4) Container storage area drainage	
D-2 Tanks [40 CFR Sections 122.25(b)(2), 264.191, 264.192]	D-5
D-2a Description of tanks	D-5
D-2b Tank corrosion and erosion	D-5
D-2c Tank management practices	D-11
D-3 Wastes piles [40 CFR Sections 122.25(b)(4), 264.250, 264.251, 264.252, 264.253]	D-15
D-3a Waste piles with free liquids	
D-3a(1) Control of wind dispersal	
D-3a(2) Control of run-on	
D-3a(3) Collection of leachate and runoff	
D-3a(4) Foundation	
D-3a(5) Waste pile base	
D-3a(5)(a) Containment system design	
D-3a(5)(b) Leachate detection, collection, and removal system	
D-3a(6) Vegetation and rodent control	
D-3a(7) Equipment and procedures for waste pile movement	
D-3b Waste piles without free liquids	
D-3b(1) Test for free liquids	
D-3b(2) Control of wind dispersal	
D-3b(3) Protection from precipitation and run-on	
D-3b(4) Demonstration that no free liquids are placed on pile	
D-4 Surface impoundments	D-15
D-5 Incinerators	D-15
E. Ground Water Monitoring Systems (Reserved)	E-1
F. Procedures to Prevent Hazards	F-1
F-1 Security [40 CFR Sections 122.25(a)(4) and 264.14]	F-1
F-1a Security procedures and equipment	F-1
F-1a(1) 24-hour surveillance system	F-1
F-1a(2) Barrier and means to control entry	F-3
F-1a(2)(a) Barrier	F-3
F-1a(2)(b) Means to control entry	F-3
F-1a(3) Warning signs	F-4
F-1b Waiver	F-4
F-1b(1) Injury to intruder	
F-1b(2) Violation by intruder	
F-2 Inspection schedule [40 CFR Sections 122.(a)(5), 264.15, 264.33, 264.174, 264.194, 264.254, 264.255]	F-4

<u>Description</u>	<u>Page</u>
F-2a General inspection requirements	F-4
F-2a(1) Types of problems	F-4
F-2a(2) Frequency of inspection	F-6
F-2b Specific process inspection requirements	F-6
F-2b(1) Container inspection	F-6
F-2b(2) Tank inspection	F-6
F-2b(2)(a) Construction materials	
F-2b(2)(b) Surrounding area	
F-2b(2)(c) Overfilling control equipment	
F-2b(2)(d) Monitoring data	
F-2b(2)(e) Level of waste	
F-2b(2)(f) Tank condition assessment	
F-2b(2)(g) Tank interior inspection	
F-2b(3) Waste pile inspection	F-9
F-2b(3)(a) Liner systems	
F-2b(3)(b) Manufactured liner materials	
F-2b(3)(c) Containment system	
F-2c Remedial action	F-9
F-2d Inspection log	F-14
F-3 Waiver of preparedness and prevention requirements [40 CFR Sections 122.25(a)(6), 264.32, and 264.35]	F-14
F-3a Equipment requirements	F-14
F-3a(1) Internal communications	
F-3a(2) External communications	
F-3a(3) Emergency equipment	
F-3a(4) Water for fire control	
F-3b Aisle space requirement	F-14
F-4 Preventive procedures, structures, and equipment [40 CFR Section 122.25(a)(8)]	F-15
F-4a Loading/unloading operations	F-15
F-4b Runoff	F-15
F-4c Water supplies	F-16
F-4d Equipment and power failure	F-16
F-4e Personnel protection equipment	F-17
F-5 Prevention of reaction of ignitable, reactive, or incompatible wastes [40 CFR Sections 122.25(a)(9), 122.25(b)(1)(iii), 122.25(b)(2)(vi), 122.25(b)(4)(i)(c)(4), 122.25(b)(4)(ii)(b)(1), 264.17, 264.21, 264.23, 264.176, 264.177, 264.198, 264.199, 264.256, 264.257]	F-17
F-5a Precautions to prevent ignition or reaction of ignitable or reactive wastes	F-17
F-5b General precautions for handling ignitable or reactive wastes or accidentally mixing incompatible wastes	F-18
F-5c Management of ignitable or reactive wastes in containers	F-18
F-5d Management of incompatible wastes in containers	F-19
F-5e Management of ignitable or reactive wastes in tanks	F-19
F-5f Management of incompatible wastes in tanks	F-19
F-5g Management of ignitable or reactive wastes in waste piles	F-19

<u>Description</u>	<u>Page</u>
F-5h Management of incompatible wastes in waste piles	F-20
G. Contingency Plan	G-1
G-1 General information [40 CFR Section 122.25(a)(7)]	G-1
G-2 Emergency coordinators [40 CFR Sections 122.25(a)(7), 264.52(d), and 264.55]	G-2
G-3 Implementation of the contingency plan [40 CFR Sections 122.25(a)(7), 264.51(b)]	G-2
G-4 Emergency response procedures [40 CFR Sections 122.25(a)(7), 264.52(a), 264.56, 264.171, 264.194(c), 264.255, and 264.258]	G-2
G-4a Notification	G-2
G-4b Identification of hazardous materials	G-2
G-4c Assessment	G-4
G-4d Control procedures	G-4
G-4e Prevention of recurrence or spread of fires, explosions, or releases	G-5
G-4f Storage and treatment of released material	G-6
G-4g Incompatible wastes	G-6
G-4h Post-emergency equipment maintenance	G-6
G-4i Container spills and leakage	G-6
G-4j Tank spills and leakage	G-6
G-4k Waste piles	G-6
G-4k(1) Indication of waste pile containment system failure	
G-4k(2) Elements of a containment system evaluation and repair plan	
G-4k(3) Criteria and procedures for removal of waste pile from service in the case of positive failure of the containment system	
G-4k(4) Restoration of a waste pile to service	
G-4k(5) Course of action after waste pile is removed from service	
G-5 Emergency equipment [40 CFR Sections 122.25(a)(7) and 264.52(e)]	G-7
G-6 Coordination agreements [40 CFR Sections 122.25(a)(7), 264.52(c) and 264.37]	G-7
G-7 Evacuation plan [40 CFR Sections 122.25(a)(7), 264.52(f)]	G-8
G-8 Required reports [40 CFR Sections 122.25(a)(7), 264.56(d), 264.56(i), and 264.73(b)(4)]	G-10
H. Personnel Training	H-1
H-1 Outline of training program [40 CFR Sections 122.25(a)(12) and 264.16]	H-1
H-1a Job titles and duties	H-1
H-1b Training content, frequency, and techniques	H-8
H-1c Training director	H-11
H-1d Relevance of training to job position	H-12
H-1e Training for emergency response	H-12

DescriptionPage

H-1e(1)	Procedures for using, inspecting, repairing, and replacing facility's emergency and monitoring equipment	
H-1e(2)	Key parameters for automatic waste feed cutoff systems	
H-1e(3)	Communications on alarm systems	
H-1e(4)	Response to fires	
H-1e(5)	Response to groundwater contamination incidents	
H-1e(6)	Shutdown of operations	
H-2	Implementation of training program [40 CFR Sections 122.25(a)(12) and 264.16]	H-13
I.	Closure Plans, Post-Closure Plans and Financial Requirements	I-1
I-1	Closure plans [40 CFR Sections 122.25(a)(13), 264.111, 264.112, 264.113, 264.178, 264.197, and 264.258]	I-1
I-1a	Closure performance standard	I-1
I-1b	Partial closure	I-1
I-1c	Maximum waste inventory	I-2
I-1d	Disposal or decontamination of equipment	I-2
I-1d(1)	Closure of containers	I-3
I-1d(2)	Closure of tanks	I-4
I-1d(3)	Closure of waste piles	I-5
I-1e	Schedule for closure	I-5
I-1f	Extensions for closure time	I-5
I-2	Post-closure plans	I-5
I-3	Notice in deed and notice to local land authority	I-5
I-4	Closure cost estimate [40 CFR Sections 122.25(a)(13) and 264.142]	I-5
I-5	Financial assurance mechanism for closure [40 CFR Sections 122.25(a)(1), 264.143, and 264.151]	I-6
I-5a	Closure trust fund	
I-5b	Surety bond	
I-5c	Closure letter of credit	I-6
I-5d	Closure insurance	
I-5e	Financial test	
I-5f	Combinations	
I-5f(1)	Multiple financial mechanisms	
I-5f(2)	Use of financial mechanism for multiple facilities	
I-5g	Proof of financial coverage by an equivalent state financial mechanism	
I-6	Post-closure cost estimate	I-6
I-7	Financial assurance mechanism for post-closure	I-7
I-8	Liability requirements [40 CFR Sections 122.25(a)(17), 264.147, and 264.151]	I-7
I-8a	Sudden insurance	I-7
I-8b	Non-sudden insurance	I-7
I-8c	Financial test for liability insurance	I-7

<u>Description</u>	<u>Page</u>
I-8d Variance procedures	I-7
I-8e Adjustment procedures	I-7
I-9 State mechanisms	I-8
I-9a Use of state-required mechanisms [40 CFR Sections 122.25(a)(18), 264.149, and 264.150]	
I-9b State assumption of responsibility	
J. Other Federal Laws [40 CFR Sections 122.12 and 122.25(a)(20)]	J-1
K. Certification [40 CFR Sections 122.6(a) and (d)]	K-1
Appendix A General Information and Hazardous Characteristics of Wastes	App. A-1
Appendix B SWS RCRA Plan - Contingency Plan	App. B-1
Appendix C Spills Control Contract with A.C.E.S.	App. C-1
Appendix D Spill Prevention Control and Countermeasure (SPCC) Plan	App. D-1
Appendix E Personnel Training Plan	App. E-1
Appendix F Closure Plan	App. F-1
Appendix G Letter of Credit, Trust Agreement and Liability Insurance Certificate	App. G-1

SWS SILICONES CORPORATION

RCRA PART B APPLICATION

FIGURES

<u>Number</u>		<u>Page</u>
1	SWS Silicones Corporation - Facility Drawing	A-11
2	Location Map - SWS Silicones Corporation	A-12
3	Covered Waste Tank T-101	A-13
4	Covered Waste Tanks T-105, T-108	A-13
5	Covered Waste Drum Storage	A-14
6	Covered Waste Drum Storage	A-14
7A	Tecumseh South Quadrangle Michigan-Lenawee Co. (Topographic)	(see back pocket)
7B	Aerial Photograph	(see back pocket)
8	1974 Land Use Atlas of Lenawee Co., Michigan	B-3
9	SWS Silicones Corporation - Contour Map	B-4
10	100 Year Floodplain Layout	B-5
11	SWS Silicones Corporation - Manufacturing Plant	B-7
12	Wind Rose	B-8
13	SWS Silicones Corporation - Storm Drain and Chemical Sewer System	B-11
14	SWS Silicones Corporation - Traffic Flow Layout	B-12
15	Michigan Department of Natural Resources Letter - 100 year Floodplain Elevation for the River Raisin	B-15
16	U.S. EPA Letter - 100 Year Floodplain Elevation for the River Raisin	B-16
17	Mixed Alcohol Waste Characterization	C-3
18	Hydrocarbon, Extremely Flammable Waste Characterization	C-4
19	Hydrocarbon, Flammable Waste Characterization	C-5
20	Hydrocarbon, Combustible Waste Characterization	C-6
21	Flammable Waste (Tech Center) Characterization	C-7

<u>Number</u>		<u>Page</u>
22	Solvent Sump Waste Characterization	C-8
23	RTV-Mineral Spirits Waste Characterization	C-9
24	Polychlorohydrocarbon Waste Characterization	C-10
25	Non-Combustible Waste Characterization	C-11
26	ES-40 Lites Waste Characterization	C-12
27	Cyclizer Waste Characterization	C-13
28	SWS-960 Waste Characterization	C-14
29	HCR Vent Waste Characterization	C-15
30	Bulk Ignitables Waste Characterization	C-16
31	Bulk Polychlorohydrocarbon Waste Characterization	C-17
32	Bulk Mineral Spirits Waste Characterization	C-18
33	Plan Layout Hazardous Waste Storage Pad	D-2
34	T-101 Drawing	D-7
35	T-105 and T-108 Drawing	D-8
36	Process Flow Diagram	D-12
37	Piping and Instrumentation Diagram for Hazardous Waste Storage in Tanks	D-13
38	Visitor's Log	F-2
39	Overview of Emergency Action Plan	G-3
40	Manufacturing Area - Disaster Plan Escape Routes	G-9
41	Reporting Form for Emergency Events	G-11

SWS SILICONES CORPORATION

RCRA PART B APPLICATION

TABLES

<u>Number</u>		<u>Page</u>
1	Wastes, Associated Hazards, and Basis for Hazard Designation	C-2
2	Parameters and Rationale for their Selection	C-22
3	Parameters and Test Methods	C-23
4	Methods Used to Sample Hazardous Wastes	C-24
5	Frequency of Analyses	C-25
6	Physical Characteristics of Storage Tanks	D-6
7	Inspection Schedule	F-5
8	Container Storage Area Weekly Inspection Log Sheet	F-7
9	Tank Storage Area and Ancillary Equipment Weekly Inspection Log Sheet	F-10

SECTION A
PART A APPLICATION

The Part A application includes the completed forms that follow, facility maps (Figures 1 and 2) and facility photographs (Figures 3-6).

This revised application was submitted to the EPA on August 27, 1982. The only differences are new pictures for the drum storage area.

SWS Silicones Corporation

ADRIAN, MICHIGAN 49221 • TELEPHONE (517) 263-5711

Submitted
Date: 5/31/83
Revision No.: 1
(8/27/82)

A

August 27, 1982

U. S. Environmental Protection Agency
Region V
RCRA Activities
P. O. Box A3587
Chicago, Illinois 60690

Dear Sir,

In reference to your June, 1982 letter, SWS Silicones Corporation (U. S. EPA I.D. #075400671) has met the requirements of 40 CFR Part 122.23, and has been acknowledged to operate under interim status.

Attached is the revised RCRA application for a hazardous waste permit which includes the following:

EPA Consolidated Permit Application Form 1
EPA Consolidated Permit Application Form 3

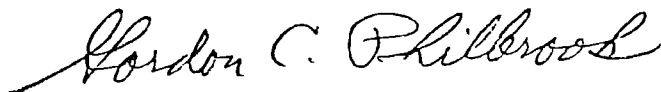
The major changes from the 1980 RCRA Application are:

1. Elimination of treatment tanks, because these are part of the waste wash-water, NPDES system.
2. Addition of a new drum pad; deletion of the old drum pad.

Please confirm upon receipt of this permit application-revision. If you have any questions regarding this submittal, please contact us.

Sincerely yours,

SWS SILICONES CORPORATION



Gordon C. Philbrook
Environmental Control Coordinator

GCP:pb 82-05-HK, certified

cc: J. Calamungi
W. P. Pagano

bcc: H. Kim
G. C. Philbrook (3)

FORM 1 GENERAL		EPA U.S. ENVIRONMENTAL PROTECTION AGENCY GENERAL INFORMATION <i>Consolidated Permits Program</i> <i>(Read the "General Instructions" before starting.)</i>		I. EPA I.D. NUMBER F M I D 07 5 4 0 0 6 7 1	
II. POLLUTANT CHARACTERISTICS		III. FACILITY NAME SWS SILICONES CORPORATION		Submitted Date: 5/31/83 Revision No.: 1 (8/27/82) A	
IV. FACILITY MAILING ADDRESS Adrian, Michigan 49221-9355		V. FACILITY LOCATION Sutton Road Adrian, Michigan 49221-9355			

SPECIFIC QUESTIONS		MARK 'X'			SPECIFIC QUESTIONS		MARK 'X'		
		YES	NO	FORM ATTACHED			YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)			X		B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)			X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)		X*			D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)			X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)		X		X	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)			X	
Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)			X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)			X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)			X		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)			X	

III. NAME OF FACILITY 1 SKIP SWS SILICONES CORPORATION	
---	--

IV. FACILITY CONTACT A. NAME & TITLE (last, first, & title) 2 CALAMUNGI, JOSEPH, DIR OF MANU		B. PHONE (area code & no.) 517 263 5711	
---	--	--	--

V. FACILITY MAILING ADDRESS A. STREET OR P.O. BOX 3 SUTTON ROAD		B. CITY OR TOWN 4 ADRIAN		C. STATE MI		D. ZIP CODE 49221	
--	--	---	--	------------------------------	--	------------------------------------	--

VI. FACILITY LOCATION A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER 5 SAME		B. COUNTY NAME LENAWEE		C. CITY OR TOWN 6		D. STATE MI		E. ZIP CODE 49221		F. COUNTY CODE (if known) 32	
---	--	---	--	------------------------------------	--	------------------------------	--	------------------------------------	--	---	--

VII. SIC CODES (4-digit, in order of priority)

A. FIRST				B. SECOND				Date: 5/31/83			
7 2 8 2 1 (specify)				7 2 8 2 2 (specify)				Revision No.: 1			
SILICONE MATERIALS				SILICONE RUBBER				(8/27/82)			
C. THIRD				D. FOURTH				A			
8 9 1 (specify)				7 2 8 6 9 (specify)				SILICONE FLUIDS			
SILICONE SEALANTS											

VIII. OPERATOR INFORMATION

A. NAME												B. Is the name listed in Item VIII-A also the owner?	
8 S.W.S. SILICONES CORPORATION												<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)												D. PHONE (area code & no.)	
F = FEDERAL S = STATE P = PRIVATE				M = PUBLIC (other than federal or state) O = OTHER (specify)				P (specify)		A 5 1 7 2 6 3 5 7 1 1			
E. STREET OR P.O. BOX													
SUTTON ROAD													
F. CITY OR TOWN						G. STATE		H. ZIP CODE		IX. INDIAN LAND			
B ADRIAN						M I		4 9 2 2 1		Is the facility located on Indian lands? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)						D. PSD (Air Emissions from Proposed Sources)					
9 N M I 0.0 2.6 0.3 4						9 P					
B. UIC (Underground Injection of Fluids)						E. OTHER (specify)					
9 U						(specify)					
C. RCRA (Hazardous Wastes)						E. OTHER (specify)					
9 M I D 0.7 5.4 0.0 6.7 1						(specify)					
See Attachment B											

XI. MAP

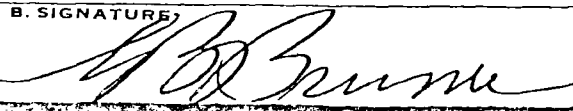
Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

MANUFACTURE OF SILICONE PRODUCTS, INCLUDING FLUIDS, EMULSIONS, SEALANTS AND RUBBERS.

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)		B. SIGNATURE		C. DATE SIGNED	
B. Bruner Vice President and General Manager				8/19/82	
COMMENTS FOR OFFICIAL USE ONLY					

SWS SILICONES CORPORATION

Attachment A

There may be rain runoff discharges possibly subject to NPDES requirements. The extent to which such storm water discharges should be subject to permitting requirements is presently under discussion with EPA.

SWS SILICONES CORPORATION

Attachment B

Michigan Air Permits

210-75

211-75

441-75

375-76

957-79

37-81

84-81

257-81

494-81

597-81

628-81

658-81

777-81

184-82

337-82

383-82

486-82

525-82

FORM 3 RCRA		U.S. ENVIRONMENTAL PROTECTION AGENCY HAZARDOUS WASTE PERMIT APPLICATION Consolidated Permits Program <i>(This information is required under Section 3005 of RCRA.)</i>	I. EPA I.D. NUMBER <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">F</td> <td style="width: 25%;">M</td> <td style="width: 25%;">I</td> <td style="width: 25%;">D</td> </tr> <tr> <td>0</td> <td>7</td> <td>5</td> <td>4</td> </tr> <tr> <td>0</td> <td>0</td> <td>6</td> <td>7</td> </tr> <tr> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> </table>	F	M	I	D	0	7	5	4	0	0	6	7	1	1	1	1
F	M	I	D																
0	7	5	4																
0	0	6	7																
1	1	1	1																
FOR OFFICIAL USE ONLY		Submitted Date: 5/31/83 Revision No.: 1 (8/27/82)																	
APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS																	

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION (place an "X" below and provide the appropriate date) <input type="checkbox"/> 1. EXISTING FACILITY (See instructions for definition of "existing" facility. Complete item below.) <table style="width: 100%;"> <tr> <td style="width: 10%;">C</td> <td style="width: 10%;">YR.</td> <td style="width: 10%;">MO.</td> <td style="width: 10%;">DAY</td> <td rowspan="2">FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)</td> </tr> <tr> <td>8</td> <td>6</td> <td>5</td> <td>2</td> </tr> </table>	C	YR.	MO.	DAY	FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)	8	6	5	2	<input type="checkbox"/> 2. NEW FACILITY (Complete item below.) FOR NEW FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN <table style="width: 100%;"> <tr> <td style="width: 10%;">YR.</td> <td style="width: 10%;">MO.</td> <td style="width: 10%;">DAY</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>	YR.	MO.	DAY			
C	YR.	MO.	DAY	FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)												
8	6	5	2													
YR.	MO.	DAY														

B. REVISED APPLICATION (place an "X" below and complete Item I above)

<input checked="" type="checkbox"/> 1. FACILITY HAS INTERIM STATUS	<input type="checkbox"/> 2. FACILITY HAS A RCRA PERMIT
--	--

III. PROCESSES - CODES AND DESIGN CAPACITIES

A. PROCESS CODE - Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the form (Item III-C).

B. PROCESS DESIGN CAPACITY - For each code entered in column A enter the capacity of the process.

1. AMOUNT - Enter the amount.
2. UNIT OF MEASURE - For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PRO-CESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY	PROCESS	PRO-CESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:			Treatment:		
CONTAINER (barrel, drum, etc.)	S01	GALLONS OR LITERS	TANK	T01	GALLONS PER DAY OR LITERS PER DAY
TANK	S02	GALLONS OR LITERS	SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS	INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS	OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)	T04	GALLONS PER DAY OR LITERS PER DAY
Disposal:					
INJECTION WELL	D79	GALLONS OR LITERS			
LANDFILL	D80	ACRE-FEET (the volume that would cover one acre to a depth of one foot) OR HECTARE-METER			
LAND APPLICATION	D81	ACRES OR HECTARES			
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY			
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS			

UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G	LITERS PER DAY	V	ACRE-FEET	A
LITERS	L	TONS PER HOUR	D	HECTARE-METER	F
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	B
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	Q
GALLONS PER DAY	U	LITERS PER HOUR	H		

EXAMPLE FOR COMPLETING ITEM III (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

1	2	C	T/A	C	1										
DUP															
LINE NUMBER	A. PRO-CESS CODE (from list above)	B. PROCESS DESIGN CAPACITY	1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PRO-CESS CODE (from list above)	B. PROCESS DESIGN CAPACITY	1. AMOUNT	2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY				
X-1	S 0 2		600	G		5									
X-2	T 0 3		20	E		6									
1	S 0 1		44,000	G		7									
2	S 0 2		55,000	G		8									
3						9									
4						10									

III. PROCESSES (continued)

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES (code "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

Submitted
Date: 5/31/83
Revision No.: 1
(8/27/82)

A

IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER — Enter the four-digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number(s) from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS.....	P	KILOGRAMS.....	K
TONS.....	T	METRIC TONS.....	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed hazardous waste: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.

2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.

3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV (shown in line numbers X-1, X-2, X-3, and X-4 below) — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES									
							1. PROCESS CODES (enter)					2. PROCESS DESCRIPTION (if a code is not entered in D(1))				
X-1	K	0	5	4	900	P	T	0	3	D	8	0				
X-2	D	0	0	2	400	P	T	0	3	D	8	0				
X-3	D	0	0	1	100	P	T	0	3	D	8	0				
X-4	D	0	0	2												included with above

EPA I.D. NUMBER (enter from page 1)													FOR OFFICIAL USE ONLY													Date: 5/31/83	
W M I D 0 7 5 4 0 0 6 7 1													W DUP													Revision No.: (8/27/82)	
IV. DESCRIPTION OF HAZARDOUS WASTES (continued)																											
Z 20 Z	A. EPA HAZARD. WASTE NO. (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE				C. UNIT OF MEASURE (enter code)	D. PROCESSES																	
										1. PROCESS CODES (enter)						2. PROCESS DESCRIPTION (if a code is not entered in D(1))											
1	F	0	0	2	550,000				P	S	0	1	S	0	2												
2	F	0	0	2	20,000				P	S	0	1															
3	F	0	0	3	30,000				P	S	0	1															
4	F	0	0	3	40,000				P	S	0	1	S	0	2												
5	D	0	0	1	544,000				P	S	0	1	S	0	2												
6	D	0	0	2	140,000				P	S	0	1															
7	D	0	0	1						INCLUDED WITH ABOVE																	
8																											
9																											
10																											
11																											
12																											
13																											
14																											
15																											
16																											
17																											
18																											
19																											
20																											
21																											
22																											
23																											
24																											
25																											
26																											

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

Submitted

Date: 5/31/83

Revision No.: 1
(8/27/82)

A

EPA I.D. NO. (enter from page 1)															
5	F	M	I	D	0	7	5	4	0	0	6	7	1	T/A	C
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

VI. PHOTOGRAPHS

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)												LONGITUDE (degrees, minutes, & seconds)											
41 56 48 N												83 57 13 W											
65 66 67 68 69 70 71												72 73 74 75 76 77 78 79											

VIII. FACILITY OWNER


☒ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER												2. PHONE NO. (area code & no.)																																			
E												33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65																																			
3. STREET OR P.O. BOX												4. CITY OR TOWN												5. ST.												6. ZIP CODE											
F												G												40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65																							

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)												B. SIGNATURE												C. DATE SIGNED											
L. B. Bruner																								8/19/82											

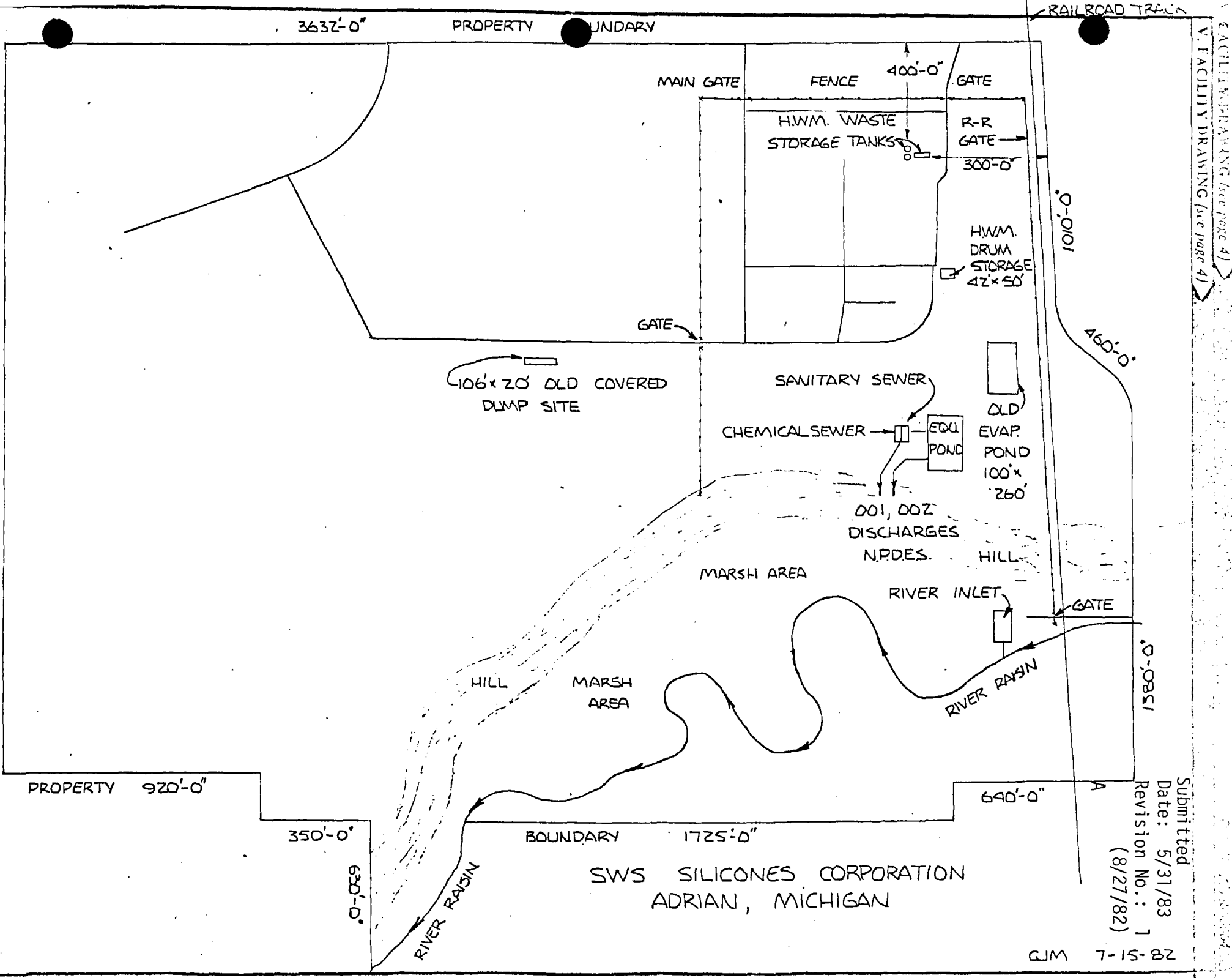
X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)												B. SIGNATURE												C. DATE SIGNED											

Figure 1

2660'-0" PROPERTY BOUNDARY



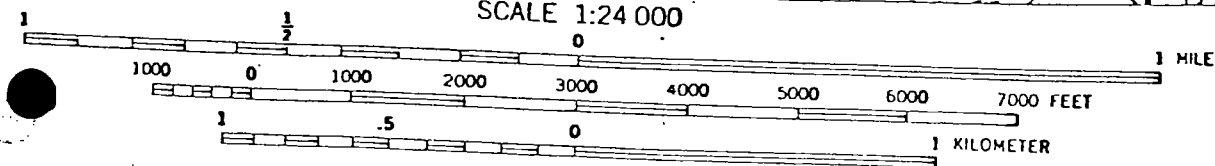
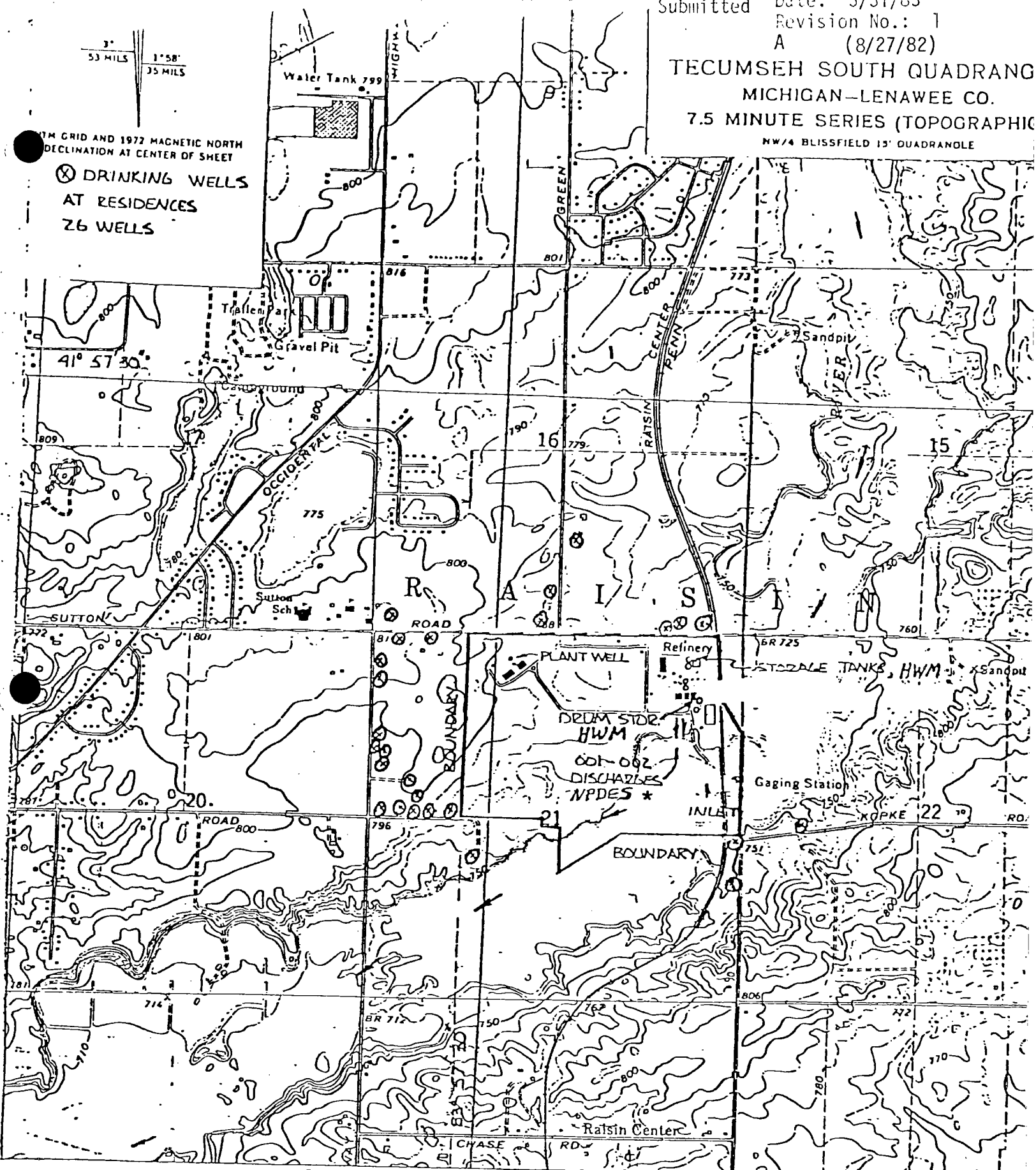
GJM 7-15-82

Submitted
Date: 5/31/83
Revision No.: 1
(8/27/82)

EACILE DRAWING (see page 4)
V. FACILITY DRAWING (see page 4)

TECUMSEH SOUTH QUADRANGLE
 MICHIGAN-LENAWEE CO.
 7.5 MINUTE SERIES (TOPOGRAPHIC)
 NW/4 BLISSFIELD 15' QUADRANGLE

UTM GRID AND 1972 MAGNETIC NORTH
 DECLINATION AT CENTER OF SHEET
 ⊗ DRINKING WELLS
 AT RESIDENCES
 26 WELLS



CONTOUR INTERVAL 10 FEET
 DOTTED LINES REPRESENT 5-FOOT CONTOURS
 NATIONAL GEODETIC VERTICAL DATUM OF 1929

Figure 2 LOCATION MAP
 SWS SILICONES CORPORATION ADRIAN MICHIGAN
 THIS MAP COMPLIES WITH...

SWS RCRA Plan,
 Revised July 13, 1982



SWS SILICONES CORPORATION
Covered Waste Tank T-101

July 13, 1982

Figure 3



Covered Waste Tanks T-105, T-108

July 13, 1982

Figure 4



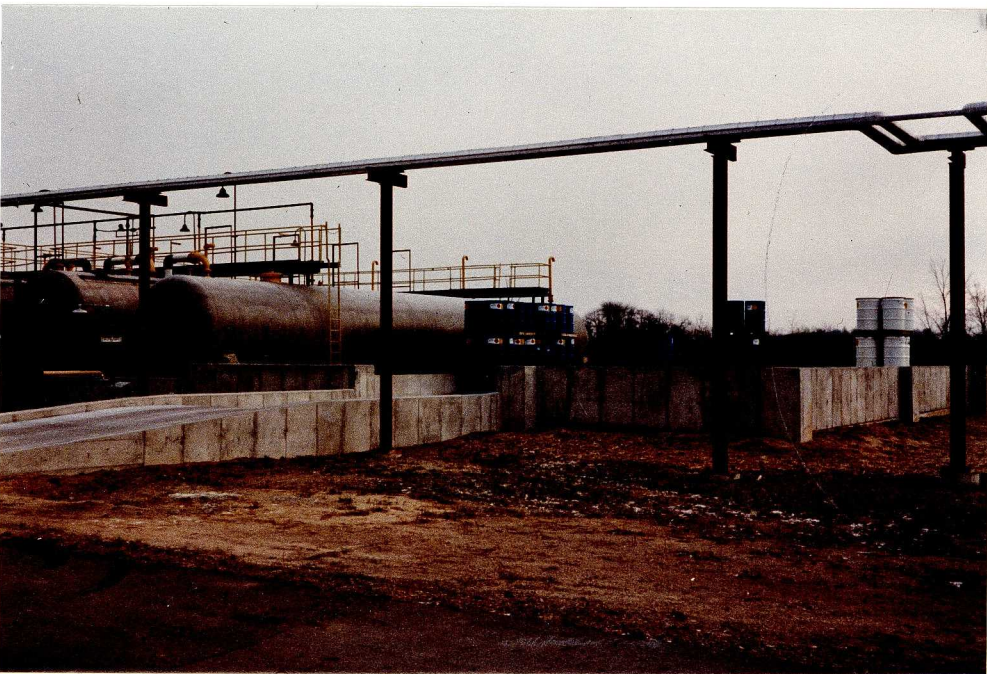
SWS SILICONES CORPORATION
Covered Waste Drum Storage

January 4, 1983

Figure 5



Figure 6



SECTION B

FACILITY DESCRIPTION

B-1 General Description [40 CFR 122.25(a)(1)]

SWS Silicones Corporation is located 4 miles south of Tecumseh, Michigan and 8 miles north of Adrian, Michigan. The street address is:

SWS Silicones Corporation
3901 Sutton Road
Lenawee County
Adrian, Michigan 49221

The mailing address is:

SWS Silicones Corporation
Adrian, Michigan 49221-9355

SWS Silicones Corporation manufactures a variety of silicone products including fluids, emulsions, sealants, antifoams, and rubbers. The company's product line includes several hundred different formulations, many of which are specialty chemicals for specific customers. The plant operates 24 hours per day, 7 days per week and employs approximately 250 people. An additional 150 people are employed at the neighboring Tech Center.

A variety of processes including chemical reaction, distillation, hydrolysis, mixing and polymerization are used. Company operations are divided into four basic manufacturing areas. The polymers area produces various fluids and gums including silicone oils, solvent blends, and some plant intermediates including OH fluids. The Hi-Bay

area produces band ply lubes, outside tire paints, antifoams, emulsifiers, and printing fluids along with plant intermediates for the polymers and RTV Areas. The RTV area produces room temperature vulcanization compounds and silicone greases. The HCR area produces heat curable rubber bases and compounds. An HCR base consists of a fluid or gum mixed with various fumed silicas, fillers, and OH fluids. An HCR compound consists of a base plus a color additive and a catalyst which results in a solid. The resulting solid may be extruded to customer order.

Hazardous wastes are generated by tank cleaning, byproducts generations, spent solvents from production, laboratory solvents, off-specification products and fume recovery.

The contact and party responsible for the hazardous waste management activities at SWS Silicones is:

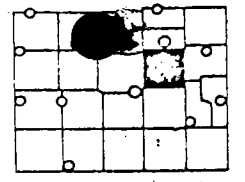
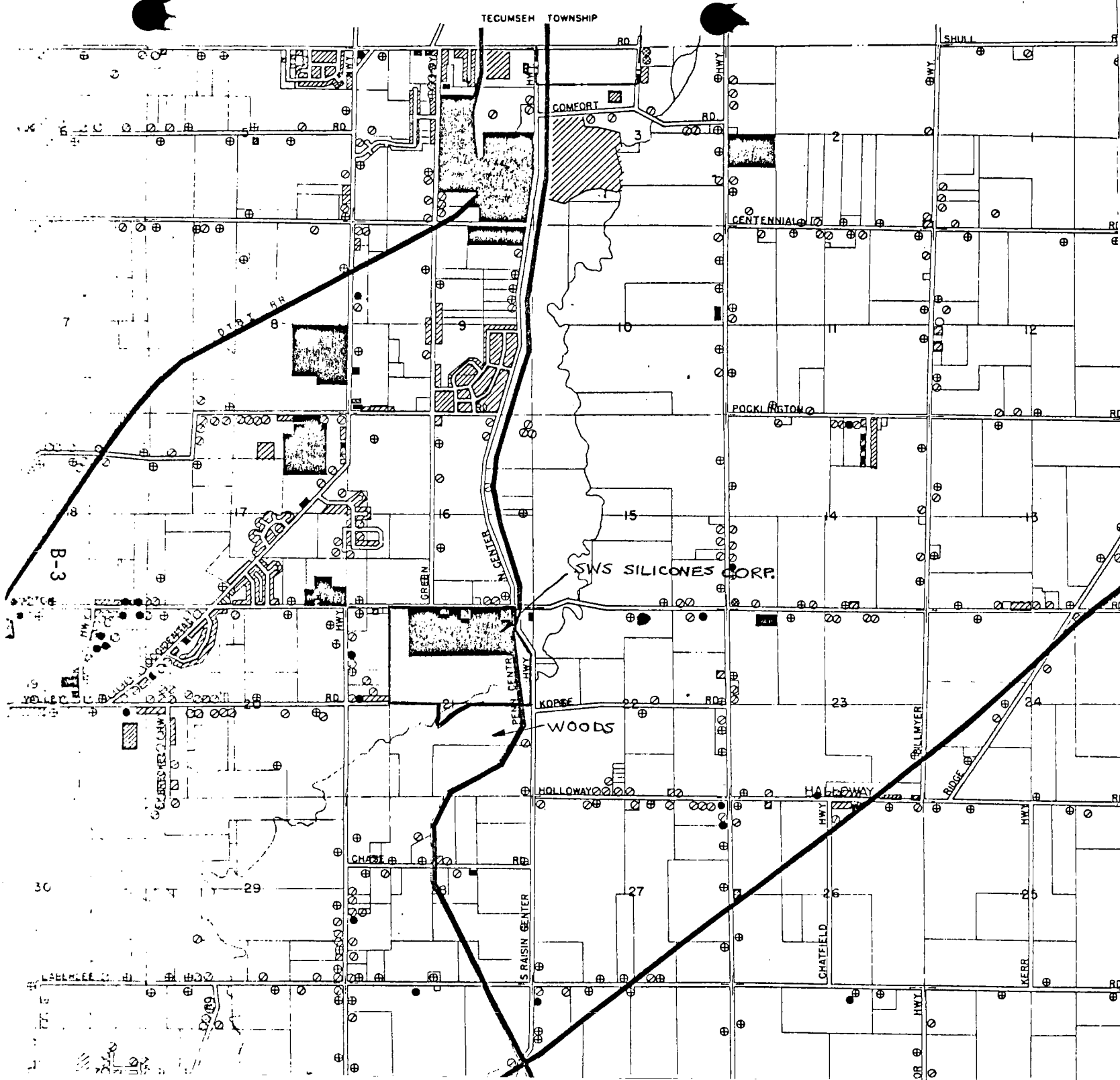
Gordon C. Philbrook
Environmental Control Coordinator
(517) 263-5711

B-2 Topographic Map [40 CFR 122.25(a)(19)]

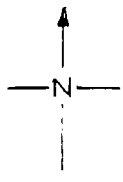
Figure 7A is a topographic (7.5 minutes series) map of the Tecumseh-South Quadrangle, Michigan-Lenawee County. This is enclosed in the back pocket. Also, included is Figure 7B which is an aerial photograph of our total property.

Figure 8 is a portion of a map from the 1974 Land Use Atlas of Lenawee County, Michigan by the Region II Planning Commission.

Figure 9 and 10 are topographic maps showing 5-ft. contour intervals of elevation and the 100-year floodplain area, respectively. These maps also show River Raisin.



RAISIN TOWNSHIP



SCALE

1 MILE

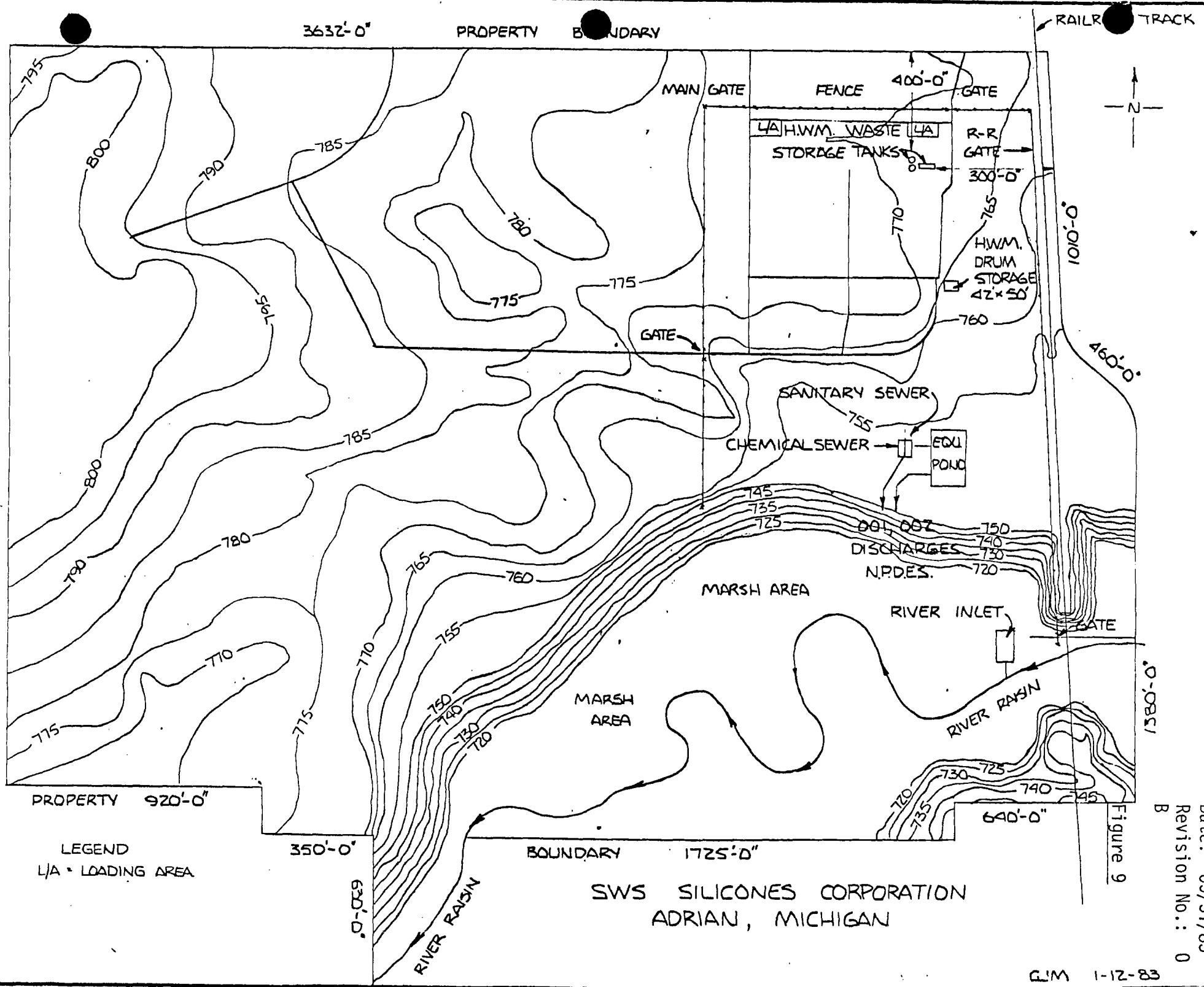
LAND USE 1974

L E G E N D

- FARMSTEAD
- SINGLE FAMILY
- TWO FAMILY AND MULTIPLE DWELLINGS
- MOBILE HOME
- LOCAL COMMERCIAL
- GENERAL COMMERCIAL
- LIGHT INDUSTRIAL
- HEAVY INDUSTRIAL
- RAILROAD
- TRANSPORTATION-UTILITIES, ETC.
- PARKS AND RELATED
- PUBLIC AND SEMI-PUBLIC
- WATER

Submitted
Date: 05/31/83
Revision No.: 01
7/28/83
B
Figure 8

B-4
2660'-0" PROPERTY BOUNDARY



LEGEND
L/A = LOADING AREA

SWS SILICONES CORPORATION
ADRIAN, MICHIGAN

Figure 9

Date: 05/31/83
Revision No.: 0

GJM 1-12-83

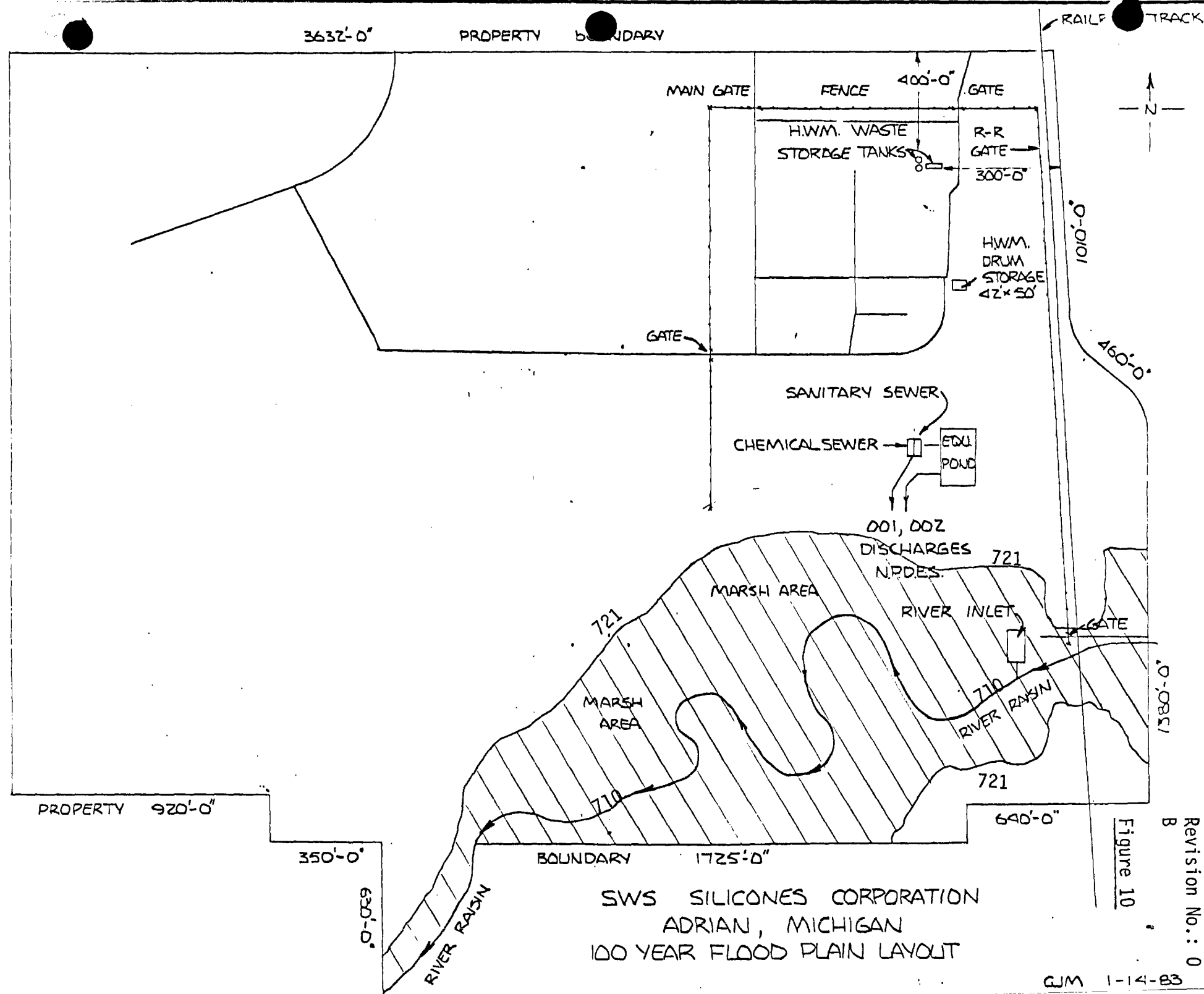


Figure 10
 B
 Date: 05/31/83
 Revision No.: 0

GJM 1-14-83

Figure 11 is a topographic map of the manufacturing plant area, showing buildings, waste storage areas and other details.

Land Uses: Figure 8 shows surrounding land-use areas. Woods or brush lie south of the facility; farmsteads occupy the north, east and south areas. The west areas have single-family homes. There are no other industries within 1,000 ft. surrounding our facility.

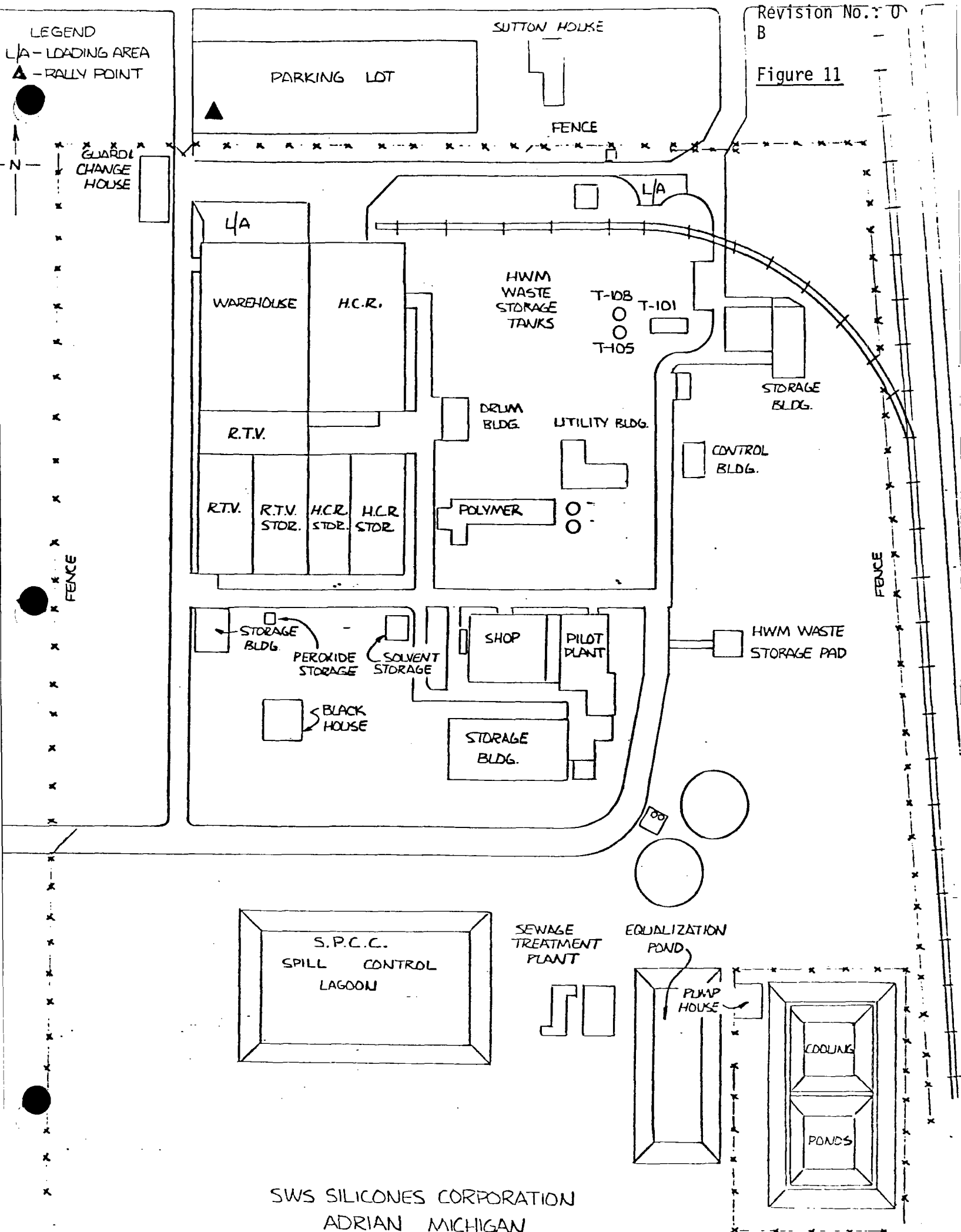
Hazardous Waste Management Facility Boundary: The hazardous waste management facilities consist of the drum storage area (800 55-gallon drums), two 15,000-gallon storage tanks and one 25,000-gallon storage tank (Figures 3, 4, 5, 6 and 11). Figure 10 shows that the location of hazardous waste facilities is outside the 100-year floodplain.

Wind Rose: Figure 12 shows an annual wind rose of meteorological data collected from January 1960 through December 1964 at the Detroit Metropolitan Wayne County Airport. (Detroit is about 60 miles northeast of Adrian). Prevailing winds in the vicinity of the Lenawee County Airport are primarily from the southwest. This condition is similar to that experienced by many airports in southeastern Michigan where wind data is collected and tabulated.

For purposes of this report, wind data collected at the Detroit Metropolitan Wayne County Airport will be used for determining wind coverage for various alternate runway alignments. Figure 12 charts the historic percentages of winds by direction and velocity for both Visual Flight Rule conditions and Instrument Flight Rule conditions.

Temperature and Precipitation: Weather conditions have been recorded in Adrian by the National Oceanic and Atmospheric Administration for over 45 years.

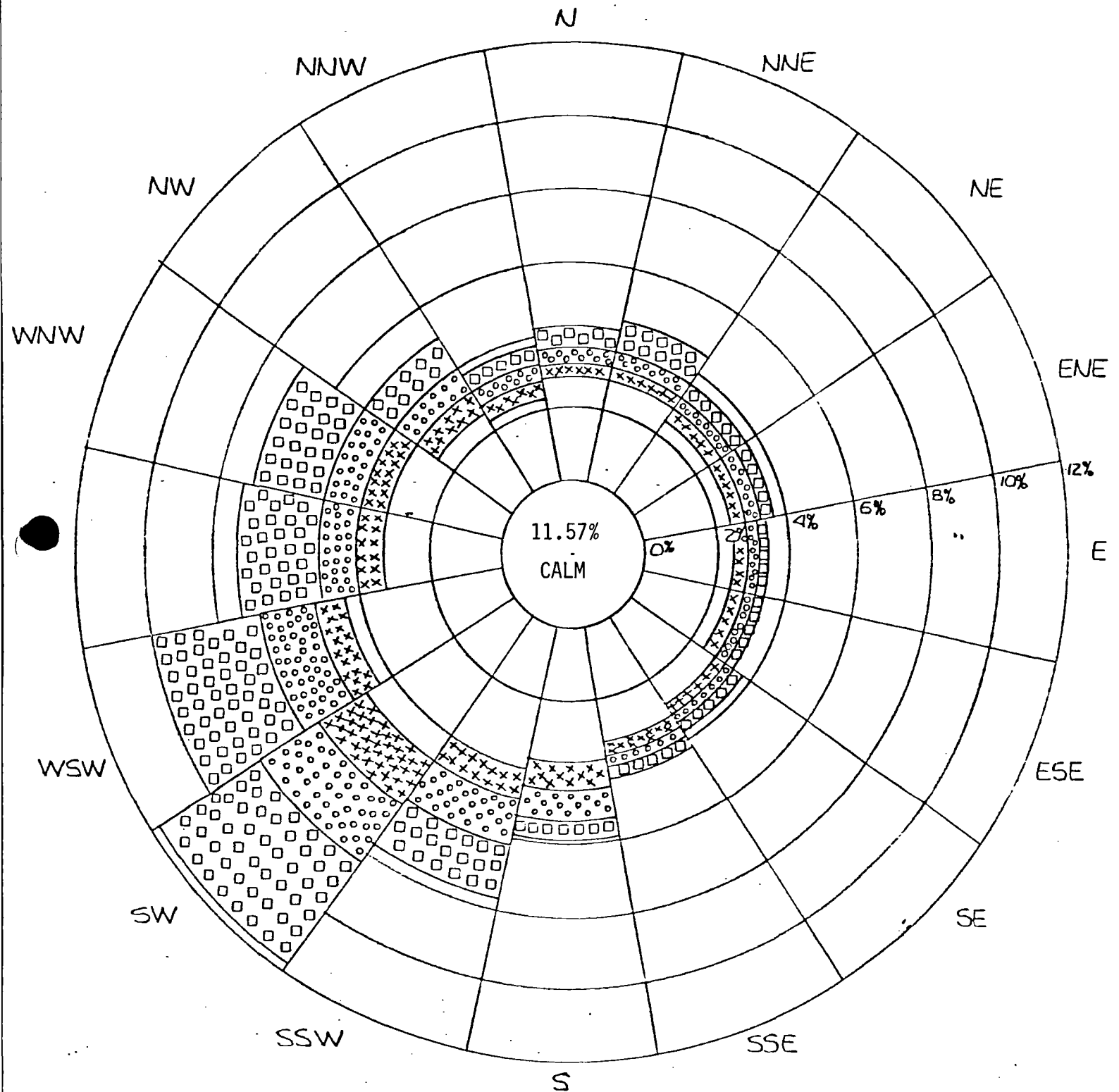
Figure 11



SWS SILICONES CORPORATION
 ADRIAN MICHIGAN

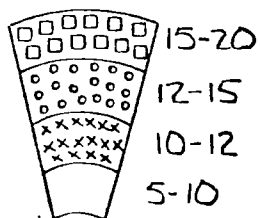
Date: 05/31/83
Revision No.: 0
B

Figure 12



WIND ROSE

B-8



WIND SPEED MPH.

Temperature

Average temperature -
January 24.3⁰F
June 68.8⁰F

Mean maximum temperature - hottest month -
July 85.9⁰F

Mean minimum temperature - coldest month -
January &
February 16.1⁰F

Precipitation

Average annual precipitation - 32.90 inches
Average annual snowfall - 30.50 inches

Access Control: The manufacturing plant area is surrounded by a fence on three sides and by the River Raisin on the south side.

A guard house is situated at the main entrance to the plant. The truck entrance gate (approximately 800 feet east of the main entrance) is remotely controlled by the guard at the main gate. Employees must show identification to obtain access; visitors must sign in and out.

Access control is discussed in further detail in Section F-1a.

Injection and Withdrawal Wells: The site has no injection wells.

There are three withdrawal wells located near the Technical Center (northwest corner of our property). Refer to Figure 2. These wells are used to supply the boiler house water, drinking water, sanitary systems, and for manufactured products. There are approximately 26 drinking wells at residences within 1,000 feet of the plant property.

Buildings; Storage Areas; Other Structures: Figure 11 shows buildings and structures in the manufacturing area, as well as the hazardous waste storage areas.

Recreation Areas: Not applicable.

Runoff Control Systems: Figure 13 shows the plant's storm drain system and the chemical sewer system. The storm waters are collected in ditches and underground pipes which go to the S.P.C.C. (Spill Prevention and Countermeasure Control) lagoon. This water is not contaminated. The chemical sewer waters are collected in ditches and underground pipes which go to the plant chemical sewer treatment system (covered by N.P.D.E.S. permit). Runoff from the hazardous waste storage pad goes to the chemical sewer system. Runoff from the hazardous storage tank area goes to the storm waters system. Section F-4b discusses runoff control in greater detail.

Access and Internal Roads: Figure 14 shows the roads within the plant area.

Storm, Sanitary and Process Sewers: The three sewer systems are independent. The storm waters drain to the S.P.C.C. pond. The chemical sewer system goes to the N.P.D.E.S. treatment system. The sanitary sewer system goes to a packaged activated sludge treatment plant. Please refer to Figure 13.

Loading and Unloading Areas: Concrete loading areas are provided on the north side of the warehouse for drummed hazardous waste. The concrete and paved loading area for bulk hazardous waste is located north of the hazardous storage tank area. Refer to Figure 14.

Fire Control Facilities: There are 9 fire hydrants and 5 hose houses located throughout the facility. See Appendix B-24.

Surface Waters: The only surface water within 1,000 feet of the facility is the River Raisin shown in Figures 7, 8, 9 and 10.

SUTTON RD

Date: 05/31/83

Revision No.: 0

B

Figure 13

LEGEND
 — STORM DRAIN
 SYSTEM
 --- CHEMICAL SEWER
 SYSTEM
 S.F. - SAND FILTER

GUARD
 CHANGE
 HOUSE

WAREHOUSE

H.C.R.

HWM
 WASTE
 STORAGE
 TANKS

T-108

T-101

T-105

STORAGE
 BLDG.

R.T.V.

DRUM
 BLDG.

UTILITY BLDG.

CONTROL
 BLDG.

R.T.V.

R.T.V.
STOR.H.C.R.
STOR.H.C.R.
STOR.

POLYMER

STORAGE
BLDG.PEROXIDE
STORAGESOLVENT
STORAGE

SHOP

PILOT
PLANT

HWM WASTE
 STORAGE PAD

BLACK
HOUSESTORAGE
BLDG.

S.P.C.C.
 SPILL CONTROL
 LAGOON

SEWAGE
 TREATMENT
 PLANT

EQUALIZATION
PONDPUMP
HOUSE

COOLING

PONDS

TO WEIR

TO WEIR

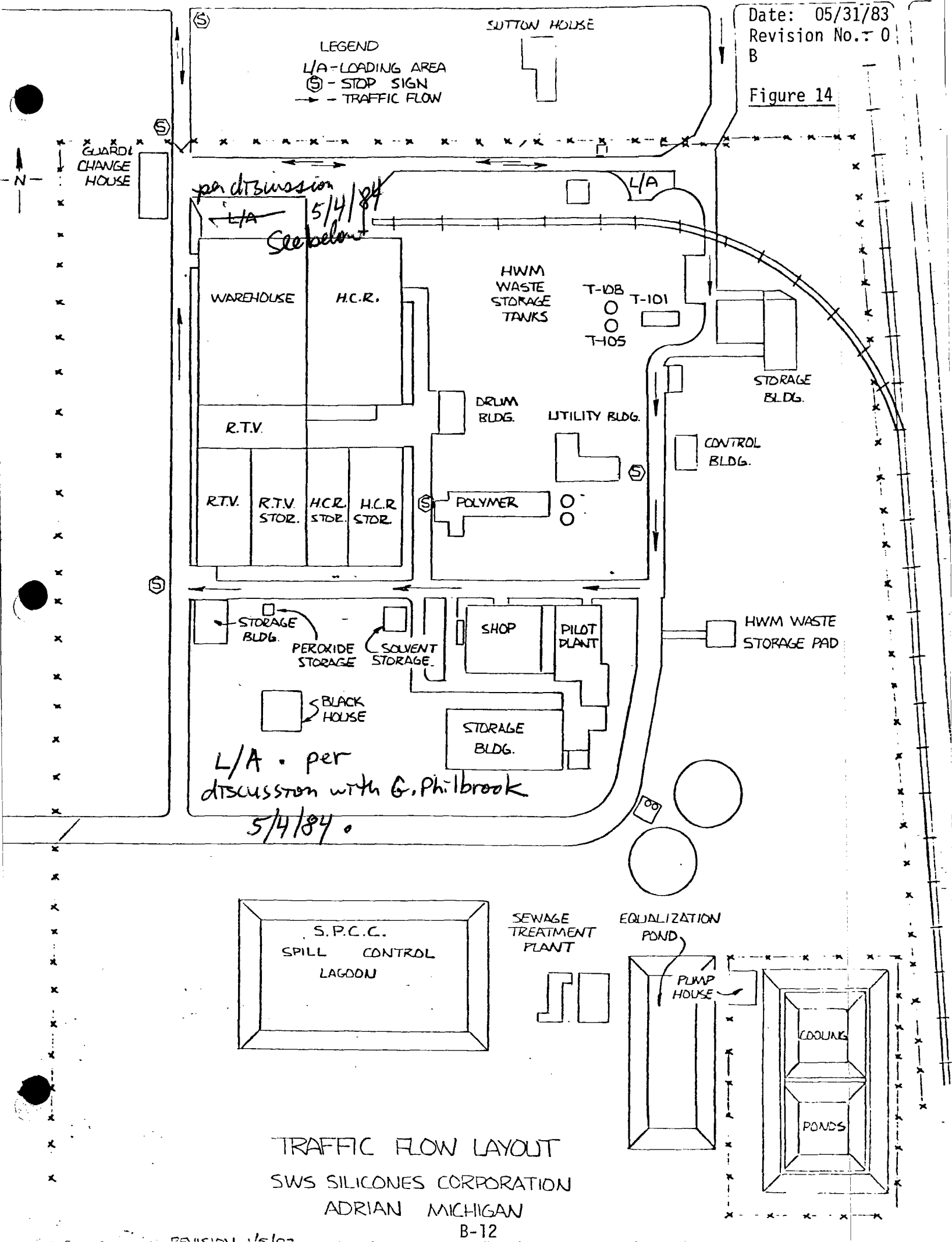
SWS SILICONES CORPORATION

ADRIAN MICHIGAN

B-11

Date: 05/31/83
Revision No.: 0
B

Figure 14



TRAFFIC FLOW LAYOUT

SWS SILICONES CORPORATION

ADRIAN MICHIGAN

Flood Control/Drainage Barriers: General drainage on the property is southeasterly toward the River Raisin. All hazardous waste management facilities are located outside the floodplain.

B-3 Location Information [40 CFR 122.25(a)(11) and 264.18]

B-3a Seismic Standard

Because this is an existing rather than a new facility, the seismic standard does not apply.

B-3b Floodplain Standard

SWS Silicones Corporation facility is located west and north of the River Raisin (approximate elevation is 710 feet MSL). The 100 year floodplain elevation at the facility is 721 feet mean sea level (MSL). Figure 10 shows the 100-year floodplain elevation. Figure 15 and 16 are copies of letters from the Michigan Department of Natural Resources (MDNR) confirming the floodplain elevation. The manufacturing plant area is in the range of 760-775 feet elevation.

B-3b(1) Demonstration of Compliance

Our hazardous waste facilities are not in the 100-year floodplain.

B-3b(1)(a) Flood Proofing and Flood Protection Measures

Not applicable.

B-3b(1)(b) Flood Plan

Not applicable.

B-3b(2) Plan for Future Compliance

Not applicable.

B-4 Traffic Patterns [40 CFR 122.25(a)(10)]

Figure 14 shows the onsite traffic pattern. The main road and

parking lots are two-way. Most cars are confined to the parking lot and entrance road. Within the plant, traffic vehicles consist mostly of fork trucks and trucks. An average of 1 to 2 trucks per week enter the plant. About 25 fork trucks are used throughout the plant on a constant basis.

Traffic Control: Traffic is controlled by stop signs and speed limit signs. Refer to Figure 14.

Access Road Surfacing: All roads are constructed of 4 inches of crushed limestone and 4 inches of asphaltic concrete (blacktop).

Load-Bearing Capacity: All roads are designed for a capacity of 200 "daily equivalent 18,000 lbs. per single axle load applications."

The empty flat-bed trucks or vans used to remove drum wastes from the loading area have a curb weight of about 27,000 lbs. Assuming removal of 76 drums, the total truck weight is about 69,000 lbs.

The bulk tanker trucks used to remove inventory from the tank storage area weigh about 75,000 lbs. total, assuming approximately 4,500-gallon removal of the heavier solvent. Therefore, the facility roads can bear the weight of the trucks, because the weight per axle of the heaviest truck (5 axles) is less than 18,000 lb. per axle, and we are well below the 40 trucks per day allowed.

Traffic Control Signals: None.



NATURAL RESOURCES COMMISSION

JACOB A. HOEFER
E. M. LAITALA
HILARY F. SNELL
PAUL H. WENDLER
HARRY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING
BOX 30028
LANSING, MI 48909
HOWARD A. TANNER, Director

March 25, 1982

Mr. Gordon C. Philbrook
Environmental Control Coordinator
SWS Silicones Corporation
Adrian, Michigan 49221

Re: Service No. 8203 119
Flood Hazard Determination
River Raisin
NE¼ Section 21, T6S, R4E
Raisin Township
Lenawee County

Dear Mr. Philbrook:

This is in response to your March 19, 1982 letter and topographic map requesting flood hazard data for your refinery facility near the River Raisin.

Available information, including flood stage and discharge records from the U.S.G.S. stream gaging station located between the Penn Central Railroad and Raisin Center Highway, indicates that the 100-year flood elevation for the River Raisin at this location is approximately 721, U.S.G.S. datum.

Based upon the topographic information provided, it appears that the plant operating area is above any expected flooding from the River Raisin.

If we can be of further assistance, please feel free to contact us.

Sincerely,

A handwritten signature in cursive script that reads "Ted L. Collins".

Ted L. Collins
Flood Hazard Regulation
Water Management Division

TLC:mks

January 20, 1983

Mr. Allen DeBus
U. S. Environmental Protection Agency
Region V
111 West Jackson Boulevard
Chicago, Illinois 60604

Re: Service No. 8203 119
River Raisin
NE $\frac{1}{4}$, Section 21, T 6 S, R 4 E
Raisin Township
Lenawee County

Dear Mr. DeBus:

I have been asked by Mr. Philbrook of SWS Silicones Corp. to explain our flood estimate of 721, USGS datum at the above location. Enclosed is a copy of the U.S.G.S. gage data for that area.

From the gage data, note the gage datum is elevation 707.0. The flood of record occurred in June, 1968 with a discharge of 2,900 cfs and a resulting stage of 12.66 feet (elevation 719.66). The gage is directly across the river from SWS Silicones and all data are directly applicable.

The 100-year frequency flood discharge has been calculated by this office at 4,090 cfs. We estimate this would produce a stage of approximately 14 feet, or elevation 721.0. We know from other areas on the River Raisin that flood discharges for the 100-year flood raise stages by about 9 to 10 feet over normal water elevations. This agrees very closely with known water surface elevations at this site of zero flow stage equal to 709.1 and normal flow stage equal to 711.7.

Since SWS Silicones' plants are located at elevations 767 and 772, from 46 to 51 feet above expected flood stage, they are obviously well above any expected flood levels. To require their company to perform a detailed analysis of the riverine system would be very expensive and produce

Mr. Allen DeBus
January 20, 1983
Page Two

Figure 16
(Page 2)

results refining the flood elevation by only a matter of tenths of a foot.

Should you have any further questions in this regard, please feel free to contact me (517/373-3930).

Sincerely,

Wallace A. Wilson, P.E., Chief
Flood Hazard Regulation
Water Management Division

WAW:cjs

Enclosure: Gage record

cc: ✓ G. C. Philbrook

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISIONFile No. { Washington 4-1757.0
FieldDescription Prepared 9-12-56
(Date)
by A. J. Quigley

Revised by D. E. Bower 11-19-62

Description of Gaging Station on River Raisin near Tecumseh, Michigan

(Prepare description in accordance with outline on back of Form 9-277. Plot cross section to scale. Use Form 9-213A or 9-213E for cross section. Use second page of this form for sketch if room is available, otherwise use Form 9-213C or 9-213H. Initial and date all sheets.)

16-58110-2 GPO

Location.--Lat 41°56'35", long 83°56'45", in NE¼ sec. 21, T. 6 S., R. 4 E., on right bank, 12 ft downstream from bridge on N. Raisin Cen. Highway, and 4.5 miles south of Tecumseh.

To reach gage from - Tecumseh - At signal light at W. Chicago and South Evans, go south on South Evans 4.5 miles to bridge and gage. (South Evans changes to N. Raisin Cen. Road at city limits).

Established.--Sept. 7, 1956 by A. J. Quigley.

Drainage area.--266 square miles.

Gage.--An F & P digital and a Stevens A 35 recorder in concrete block house and well. Outside gage is wire weight gage located on downstream side of bridge which is 12 ft upstream from gage house. Inside gage is enamel staff gage plate reading from 0 to 16.86 and fastened to downstream wall of well. Reference gage is electric tape gage set on instrument shelf to left of recorder. Well is equipped with three 2-inch intakes the 2 bottom ones of which are connected by 3-way valves to 3 cu ft tank for flushing.

Gage elevations of pertinent parts are as follows:

Bottom of well-----	0 feet
Lower intake, river end-----	.6 "
Lower intake, well end-----	1.2 "
Middle intake, river end-----	1.9 "
Middle intake, well end-----	2.2 "
Upper intake, river end-----	2.7 "
Upper intake, well end-----	3.2 "
Sub-floor-----	7.3 "
Floor of House-----	14.1 "
Instrument shelf-----	17.00"
ETG index-----	17.008"
Check bar-----	17.37"

Date: 05/31/83
Revision No: 0
BFigure 16
(Page 3)

Datum of gage is 707.0 feet above mean sea level, datum of 1929.

History.--Recording gage started on River Raisin near Adrian about 5.5 miles downstream in October 1953 and has been operating continuously since.

A Stevens recorder operated in present house until Nov. 15, 1962 when the digital recorder was installed.

Channel and control.--Channel and streambed are of mud, sand and small gravel.

Main channel is confined to small valley about 1000 ft wide which is generally about 40 ft below surrounding countryside. River wanders throughout valley floor. Both banks are fairly low and covered with small trees and brush. Overflow starts on right bank at about gage height 7 ft. Channel is straight for 50 feet above and 300 feet below station.

Low-water control is gravel riffle 200 ft below gage and is believed to be fairly permanent.

High-water control is channel and extreme high water is probably railroad bridge abutments 225 ft below gage.

Discharge measurements.--Low-water measurements can be made by wading on control or at almost any section from bridge to 300 ft above bridge up to a stage of about 5.5 ft. High-water measurements can be made from highway bridge 12 ft above gage. Both handrails of bridge are marked with single paint stripe every 5 feet to 40 feet and then every 2 feet to 90 feet. Numerals are painted next to stripe every 10 feet. Initial point is at right bridge abutment.

Floods.--A discharge of 1200 cfs occurred on Mar. 7, 1959 at a gage height of 10.33 ft.

Point of zero flow.--2.1 ft Sept. 10, 1956, probably shifting.

Winter flow.--Stage discharge relation probably affected by ice during extreme cold weather.

Regulation and diversion.--Diurnal fluctuation caused by municipal power-plant at Tecumseh 5.5 miles upstream. A number of other small dams further upstream may have slight effect upon flow.

Accuracy.--Conditions for obtaining gage-height record are excellent. Conditions for measuring discharge are excellent at low stages and fair at high stages due to varying angles.

Cooperation.--City of Adrian, State of Michigan Water Resources Commission.

Sketch.--

Photographs.--In district files.

Reference marks.--RM 1 is chiseled cross on 19th rivet below bridge nameplate in downstream row of rivets at right downstream end of bridge. Elevation 16.116 ft., gage datum.

RM 2 is chiseled cross in I beam encased in right downstream bridge abutment at right edge of gage house walkway. Elevation 14.066 ft., gage datum.

RM 3 is $\frac{1}{2}$ " machine bolt in 18" diameter tree 5 ft north of gage house. Bolt is 18" above ground in north side of tree. Elevation 11.535 ft., gage datum.

Date: 05/31/83
Revision No: 0
B
Figure 16
(Page 4)

SECTION C
WASTE CHARACTERISTICS

C-1 Chemical and Physical Analyses [40 CFR 122.25(a)(2)]

List of Hazardous Wastes Stored at Facility: Hazardous wastes are stored at this facility in 55-gallon drum containers, two 15,000-gallon storage tanks and one 25,000-gallon storage tank. Current inventory consists of approximately

90 containers (55-gallon drums)
One 25,000-gallon tank with 8,000 gal.
One 15,000-gallon tank with 1,500 gal.
One 15,000-gallon tank with 400 gal.

Table 1 lists the hazardous wastes stored at the SWS Silicones Corporation manufacturing plant, their associated hazard classification, and the basis for the hazard classification. In most cases, the classification is based on known characteristics of the wastes, such as ignitability and corrosivity. Figures 17 through 32 show the chemical waste characterizations. None of the wastes are incompatible.

TABLE 1

WASTES, ASSOCIATED HAZARDS, AND BASIS FOR HAZARD DESIGNATION

Waste	Hazard	Basis for hazard designation
<u>Drums</u>		
Mixed Alcohol	Ignitable Toxic	Tested flash point 68 - 77°F. Listed waste F003.
Hydrocarbon, Extremely Flammable	Ignitable	Tested flash point 25 - 34°F.
Hydrocarbon, Flammable	Ignitable Toxic	Tested flash point 68 - 77°F. Listed waste F003.
Hydrocarbon, Combustible	Ignitable	Tested flash point 104 - 113°F.
Flammable, Tech Center	Ignitable Toxic	Tested flash point 68 - 77°F. Listed waste F003.
Solvent Sump	Ignitable	Tested flash point 104 - 113°F.
Mineral Spirits	Ignitable	Tested flash point 104 - 113°F.
Polychlorohydrocarbon	Toxic	Listed waste F002.
Non-Combustible, Tech Center	Toxic	Listed waste F002.
ES-40 Lites	Ignitable	Tested flash point 68 - 77°F.
Cyclizer	Corrosive Ignitable	Has pH of >13. Tested flash point 122 - 131°F.
SWS-960	Ignitable	Tested flash point 59 - 68°F.
HCR Vent	Ignitable	Tested flash point 80 - 86°F.
<u>Tanks</u>		
Bulk Ignitables	Ignitable Toxic	Tested flash point 25 - 113°F. Listed waste F002, F003.
Bulk Polychlorohydrocarbon	Toxic	Listed waste F002.
Bulk Mineral Spirits	Ignitable	Tested flash point 104 - 113°F.

Doc 1

CHEMICAL WASTE CHARACTERIZATION

Figure 17

PLANT LOCATION

SWS Silicones Corporation Adrian, MI

DESCRIPTION OF WASTE

1 Mixed Alcohol Waste

VOLUME	FREQUENCY	PACKING
4,000 gallons	<input type="checkbox"/> PER MONTH <input checked="" type="checkbox"/> PER YEAR <input type="checkbox"/> ONE TIME	<input checked="" type="checkbox"/> IN DRUMS <input type="checkbox"/> IN BULK

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F	<input type="checkbox"/> SOLID <input checked="" type="checkbox"/> LIQUID <input type="checkbox"/> SEMISOLID	VISCOSITY @ 70°F	<input checked="" type="checkbox"/> LOW <input type="checkbox"/> MEDIUM <input type="checkbox"/> HIGH
LAYERING	<input checked="" type="checkbox"/> NONE <input type="checkbox"/> BILAYERED <input type="checkbox"/> MULTILAYERED	% LAYERING BY VOLUME AT INFINITE SETTLING	
		% TOP _____ % _____ % _____ % BOTTOM	
SUSPENDED SOLIDS	<input checked="" type="checkbox"/> <5% <input type="checkbox"/> 5-20% <input type="checkbox"/> >20%	DISSOLVED SOLIDS BY WEIGHT	<input checked="" type="checkbox"/> <5% <input type="checkbox"/> 5-20% <input type="checkbox"/> >20%
SPECIFIC GRAVITY @ 60°F		FLASH POINT (OC)	
<input type="checkbox"/> <0.8 <input checked="" type="checkbox"/> 0.8-1.0 <input type="checkbox"/> 1.0-1.2 <input type="checkbox"/> 1.2-1.4 <input type="checkbox"/> 1.4-1.7 <input type="checkbox"/> >1.7		<input checked="" type="checkbox"/> <80°F <input type="checkbox"/> 80-150°F <input type="checkbox"/> >150°F <input type="checkbox"/> NONE	
THOUSANDS OF BTU'S / LB.		ORGANICALLY BOUND CHLORINE (WT. %)	
<input type="checkbox"/> <1 <input type="checkbox"/> 1-5 <input type="checkbox"/> 5-9 <input type="checkbox"/> 9-12 <input type="checkbox"/> 12-16 <input checked="" type="checkbox"/> 16-20		<input checked="" type="checkbox"/> NONE <input type="checkbox"/> TRACE <input type="checkbox"/> 1-10% <input type="checkbox"/> 10-30% <input type="checkbox"/> >30%	
ORGANICALLY BOUND SULFUR (WT. %)		pH	
<input checked="" type="checkbox"/> NONE <input type="checkbox"/> TRACE <input type="checkbox"/> 0.5-5% <input type="checkbox"/> >5%		<input type="checkbox"/> 1-4 <input type="checkbox"/> 4-7 <input checked="" type="checkbox"/> 7 <input type="checkbox"/> 7-10 <input type="checkbox"/> 10-13	
TOXICITY		OTHER INFORMATION:	
<input type="checkbox"/> HIGH <input type="checkbox"/> MEDIUM <input checked="" type="checkbox"/> LOW <input type="checkbox"/> UNKNOWN			

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	8-100 % Isopropanol	87% Methanol	%	%
	%	%	%	%
NON VOLATILE ORGANICS	%	%	%	%
ACIDS OR ALKALIS	%	%	%	%
SALTS	%	%	%	%
METALLICS	%	%	%	%
CYANIDES - PESTICIDES - CARCINOGENS - OTHER HAZARDOUS/ TOXICS	%	%	%	%
OTHER	Trace % Silicones	%	%	%
% WATER 0-20	Odor:	Transportation Method Used Truck		
CORROSIVENESS:	Reactivity	Potential for:		
None	None	A. Bioaccumulation		
		B. Persistence		

*Basis for Toxicity Evaluation

- 1 Inhalation
- 1 Dermal
- 2 Oral

Approved by

CHEMICAL WASTE CHARACTERIZATION

Figure 18

PLANT LOCATION

SWS Silicones Corporation Adrian, MI

DESCRIPTION OF WASTE

2 Hydrocarbon Waste - Extremely Flammable

VOLUME

5,000 gallons

FREQUENCY

PER
MONTHPER
YEARONE
TIME

PACKING

IN
DRUMSIN
BULK

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F

SOLID

LIQUID

SEMISOLID

VISCOSITY @ 70°F

LOW

MEDIUM

HIGH

LAYERING

NONE

BILAYERED

MULTILAYERED

% LAYERING BY VOLUME AT INFINITE SETTLING

% TOP

%

%

% BOTTOM

SUSPENDED SOLIDS

<5%

5-20%

>20%

WEIGHT

OR

VOLUME

DISSOLVED SOLIDS BY WEIGHT

<5%

5-20%

>20%

SPECIFIC GRAVITY @ 60°F

<0.8

0.8-1.0

1.0-1.2

1.2-1.4

1.4-1.7

>1.7

FLASH POINT (°C)

<80°F

80-150°F

>150°F

NONE

THOUSANDS OF BTU'S / LB.

<1

1-5

5-9

9-12

12-16

16-20

ORGANICALLY BOUND CHLORINE (WT. %)

NONE

TRACE

1-10%

10-30%

>30%

ORGANICALLY BOUND SULFUR (WT. %)

NONE

TRACE

0.5-5%

>5%

pH

1-4

4-7

7

7-10

10-13

TOXICITY *

HIGH

MEDIUM

LOW

UNKNOWN

OTHER INFORMATION:

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	%	5-8 % Heptane	%	92 % Cyclohexane
	%	%	%	%
NON VOLATILE ORGANICS	%	%	%	%
ACIDS OR ALKALIS	%	%	%	%
SALTS	%	%	%	%
METALLICS	%	%	%	%
CYANIDES - PESTICIDES - CARCINOGENS - OTHER HAZARDOUS/ TOXICS	%	%	%	%
	%	%	%	%
OTHER	Trace % Silicones	%	%	%
% WATER	Odor:	Transportation Method Used Truck		
CORROSIVENESS:	Reactivity	Potential for:		
None	None	A. Bioaccumulation		
		B. Persistence		

*Basis for Toxicity Evaluation

- 1 Inhalation
- 1 Dermal
- 1 Oral

C-4

Approved by

CHEMICAL WASTE CHARACTERIZATION

Figure 19

PLANT LOCATION

SWS Silicones Corporation Adrian, MI

DESCRIPTION OF WASTE

3 Hydrocarbon Waste - Flammable

VOLUME	FREQUENCY	PACKING
5,000 gallons	<input type="checkbox"/> PER MONTH <input checked="" type="checkbox"/> PER YEAR <input type="checkbox"/> ONE TIME	<input checked="" type="checkbox"/> IN DRUMS <input type="checkbox"/> IN BULK

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F	<input type="checkbox"/> SOLID <input checked="" type="checkbox"/> LIQUID <input type="checkbox"/> SEMISOLID	VISCOSITY @ 70°F	<input checked="" type="checkbox"/> LOW <input type="checkbox"/> MEDIUM <input type="checkbox"/> HIGH
LAYERING	<input checked="" type="checkbox"/> NONE <input type="checkbox"/> BILAYERED <input type="checkbox"/> MULTILAYERED	% LAYERING BY VOLUME AT INFINITE SETTLING	
SUSPENDED SOLIDS	<input checked="" type="checkbox"/> <5% <input type="checkbox"/> 5-20% <input type="checkbox"/> >20% <input checked="" type="checkbox"/> WEIGHT OR <input type="checkbox"/> VOLUME	<input checked="" type="checkbox"/> <5% <input type="checkbox"/> 5-20% <input type="checkbox"/> >20%	
SPECIFIC GRAVITY @ 60°F	<input type="checkbox"/> <0.8 <input checked="" type="checkbox"/> 0.8-1.0 <input type="checkbox"/> 1.0-1.2 <input type="checkbox"/> 1.2-1.4 <input type="checkbox"/> 1.4-1.7 <input type="checkbox"/> >1.7	FLASH POINT (OC)	
THOUSANDS OF BTU'S / LB.	<input type="checkbox"/> <1 <input type="checkbox"/> 1-5 <input type="checkbox"/> 5-9 <input type="checkbox"/> 9-12 <input type="checkbox"/> 12-16 <input checked="" type="checkbox"/> 16-20	<input checked="" type="checkbox"/> <80°F <input type="checkbox"/> 80-160°F <input type="checkbox"/> >160°F <input type="checkbox"/> NONE	
ORGANICALLY BOUND SULFUR (WT. %)	<input checked="" type="checkbox"/> NONE <input type="checkbox"/> TRACE <input type="checkbox"/> 0.5-5% <input type="checkbox"/> >5%	ORGANICALLY BOUND CHLORINE (WT. %)	
TOXICITY %	<input type="checkbox"/> HIGH <input checked="" type="checkbox"/> MEDIUM <input type="checkbox"/> LOW <input type="checkbox"/> UNKNOWN	<input checked="" type="checkbox"/> NONE <input type="checkbox"/> TRACE <input type="checkbox"/> 1-10% <input type="checkbox"/> 10-30% <input type="checkbox"/> >30%	
		pH	
		<input type="checkbox"/> 1-4 <input type="checkbox"/> 4-7 <input checked="" type="checkbox"/> 7 <input type="checkbox"/> 7-10 <input type="checkbox"/> 10-13	
OTHER INFORMATION:			

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	0-80% Xylene	50-60% Special Naphtha 66/3	40-50% H1 Flash VM&P Naphtha	%
NON VOLATILE ORGANICS	%	%	%	%
ACIDS OR ALKALIS	%	%	%	%
SALTS	%	%	%	%
METALLICS	%	%	%	%
CYANIDES - PESTICIDES - CARCINOGENS - OTHER HAZARDOUS/ TOXICS	%	%	%	%
OTHER	Trace % Silicones	%	%	%
% WATER	Odor:	Transportation Method Used Truck		
CORROSIVENESS:	Reactivity	Potential for:		
None	None	A. Bioaccumulation B. Persistence		

*Basis for Toxicity Evaluation

- 2 Inhalation
- 1 Dermal
- 1 Oral

Approved by

C-5

CHEMICAL WASTE CHARACTERIZATION

Figure 20

PLANT LOCATION

SWS Silicones Corporation

Adrian, MI

DESCRIPTION OF WASTE

4 Hydrocarbon Waste - Combustible

VOLUME

7,000 gallons

FREQUENCY

PER
MONTHPER
YEARONE
TIME

PACKING

IN
DRUMSIN
BULK

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F

SOLID

LIQUID

SEMISOLID

VISCOSITY @ 70°F

LOW

MEDIUM

HIGH

LAYERING

NONE

BILAYERED

MULTILAYERED

% LAYERING BY VOLUME AT INFINITE SETTLING

% TOP

%

%

% BOTTOM

SUSPENDED SOLIDS

<5%

5-20%

>20%

WEIGHT

OR

VOLUME

DISSOLVED SOLIDS BY WEIGHT

<5%

5-20%

>20%

SPECIFIC GRAVITY @ 60°F

<0.8

0.8-1.0

1.0-1.2

1.2-1.4

1.4-1.7

>1.7

FLASH POINT (°C)

< 80°F

80-160°F

>160°F

NONE

THOUSANDS OF BTU'S / LB.

<1

1-5

5-9

9-12

12-18

18-20

ORGANICALLY BOUND CHLORINE (WT. %)

NONE

TRACE

1-10%

10-30%

>30%

ORGANICALLY BOUND SULFUR (WT. %)

NONE

TRACE

0.5-5%

>5%

pH

1-4

4-7

7

7-10

10-13

TOXICITY *

HIGH

MEDIUM

LOW

UNKNOWN

OTHER INFORMATION:

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	21-100% Kwik Dry	100% Mineral Spirits	%	100% Solvent 140
	% Naphtha	%	%	%
NON VOLATILE ORGANICS	%	%	%	%
ACIDS OR ALKALIS	%	%	%	%
SALTS	%	%	%	%
METALLICS	%	%	%	%
CYANIDES - PESTICIDES - CARCINOGENS - OTHER HAZARDOUS/ TOXICS	%	%	%	%
OTHER	Trace% Silicones	%	%	%
% WATER	Odor:	Transportation Method Used Truck		
CORROSIVENESS:	Reactivity	Potential for:		
None	None	A. Bioaccumulation		
		B. Persistence		

*Basis for Toxicity Evaluation

2 Inhalation

1 Dermal

1 Oral

Approved by

C-6

CHEMICAL WASTE CHARACTERIZATION

Figure 21

PLANT LOCATION

SWS Silicones Corporation Adrian, MI

DESCRIPTION OF WASTE

5 Flammable Waste - Tech Center

VOLUME	FREQUENCY	PACKING
4,000 gallons	<input type="checkbox"/> PER MONTH <input checked="" type="checkbox"/> PER YEAR <input type="checkbox"/> ONE TIME	<input checked="" type="checkbox"/> IN DRUMS <input type="checkbox"/> IN BULK

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F	<input type="checkbox"/> SOLID <input checked="" type="checkbox"/> LIQUID <input type="checkbox"/> SEMISOLID	VISCOSITY @ 70°F	<input checked="" type="checkbox"/> LOW <input type="checkbox"/> MEDIUM <input type="checkbox"/> HIGH
LAYERING	<input type="checkbox"/> NONE <input checked="" type="checkbox"/> BILAYERED <input type="checkbox"/> MULTILAYERED	% LAYERING BY VOLUME AT INFINITE SETTLING	
		% TOP _____ % BOTTOM _____	
SUSPENDED SOLIDS	<input checked="" type="checkbox"/> <5% <input type="checkbox"/> 5-20% <input type="checkbox"/> >20%	DISSOLVED SOLIDS BY WEIGHT	<input checked="" type="checkbox"/> <5% <input type="checkbox"/> 5-20% <input type="checkbox"/> >20%
SPECIFIC GRAVITY @ 60°F	<input type="checkbox"/> <0.8 <input checked="" type="checkbox"/> 0.8-1.0 <input type="checkbox"/> 1.0-1.2 <input type="checkbox"/> 1.2-1.4 <input type="checkbox"/> 1.4-1.7 <input type="checkbox"/> >1.7	FLASH POINT (OC)	<input checked="" type="checkbox"/> <80°F <input type="checkbox"/> 80-160°F <input type="checkbox"/> >160°F <input type="checkbox"/> NONE
THOUSANDS OF BTU'S / LB.	<input type="checkbox"/> <1 <input type="checkbox"/> 1-5 <input type="checkbox"/> 5-9 <input type="checkbox"/> 9-12 <input type="checkbox"/> 12-18 <input checked="" type="checkbox"/> 18-20	ORGANICALLY BOUND CHLORINE (WT. %)	<input type="checkbox"/> NONE <input checked="" type="checkbox"/> TRACE <input type="checkbox"/> 1-10% <input type="checkbox"/> 10-30% <input type="checkbox"/> >30%
ORGANICALLY BOUND SULFUR (WT. %)	<input checked="" type="checkbox"/> NONE <input type="checkbox"/> TRACE <input type="checkbox"/> 0.5-5% <input type="checkbox"/> >5%	pH	<input type="checkbox"/> 1-4 <input checked="" type="checkbox"/> 4-7 <input type="checkbox"/> 7 <input type="checkbox"/> 7-10 <input type="checkbox"/> 10-13
TOXICITY *	<input type="checkbox"/> HIGH <input checked="" type="checkbox"/> MEDIUM <input type="checkbox"/> LOW <input type="checkbox"/> UNKNOWN	OTHER INFORMATION:	

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	15-30 % Xylene	20-60 % Isopropanol	0-3 % Acetone	%
NON VOLATILE ORGANICS	0-20 % Mineral Spirits	0-4 % Methanol	%	%
ACIDS OR ALKALIS	%	%	%	%
SALTS	%	%	%	%
METALLICS	%	%	%	%
CYANIDES - PESTICIDES - CARCINOGENS - OTHER HAZARDOUS/ TOXICS	%	%	%	%
OTHER	%	10-15 % Siloxanes	%	%
% WATER 5-20	Odor:	Transportation Method Used Truck		
CORROSIVENESS: None	Reactivity: None	Potential for: A. Bioaccumulation B. Persistence		

*Basis for Toxicity Evaluation

- 2 Inhalation
- 1 Dermal
- 1 Oral

CHEMICAL WASTE CHARACTERIZATION

Figure 22

PLANT LOCATION

SWS Silicones Corporation Adrian, MI

DESCRIPTION OF WASTE

7 Solvent Sump Waste

VOLUME	FREQUENCY	PACKING
14,000 gallons	<input type="checkbox"/> PER MONTH <input checked="" type="checkbox"/> PER YEAR <input type="checkbox"/> ONE TIME	<input checked="" type="checkbox"/> IN DRUMS <input type="checkbox"/> IN BULK

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F		VISCOSITY @ 70°F	
<input type="checkbox"/> SOLID	<input checked="" type="checkbox"/> LIQUID	<input type="checkbox"/> SEMISOLID	<input checked="" type="checkbox"/> LOW <input type="checkbox"/> MEDIUM <input type="checkbox"/> HIGH
LAYERING		% LAYERING BY VOLUME AT INFINITE SETTLING	
<input checked="" type="checkbox"/> NONE	<input type="checkbox"/> BILAYERED	<input type="checkbox"/> MULTILAYERED	% TOP _____ % _____ % _____ % BOTTOM
SUSPENDED SOLIDS		DISSOLVED SOLIDS BY WEIGHT	
<input checked="" type="checkbox"/> <5%	<input type="checkbox"/> 5-20%	<input type="checkbox"/> >20%	<input checked="" type="checkbox"/> <5% <input type="checkbox"/> 5-20% <input type="checkbox"/> >20%
SPECIFIC GRAVITY @ 60°F		FLASH POINT (OC)	
<input type="checkbox"/> <0.8	<input checked="" type="checkbox"/> 0.8-1.0	<input type="checkbox"/> 1.0-1.2	<input type="checkbox"/> 1.2-1.4
<input type="checkbox"/> 1.4-1.7	<input type="checkbox"/> >1.7	<input type="checkbox"/> <80°F	<input checked="" type="checkbox"/> 80-160°F
<input type="checkbox"/> >160°F	<input type="checkbox"/> NONE	ORGANICALLY BOUND CHLORINE (WT. %)	
THOUSANDS OF BTU'S / LB.		<input checked="" type="checkbox"/> NONE <input type="checkbox"/> TRACE <input type="checkbox"/> 1-10% <input type="checkbox"/> 10-30% <input type="checkbox"/> >30%	
ORGANICALLY BOUND SULFUR (WT. %)		pH	
<input checked="" type="checkbox"/> NONE	<input type="checkbox"/> TRACE	<input type="checkbox"/> 0.5-5%	<input type="checkbox"/> >5%
<input type="checkbox"/> 1-4	<input type="checkbox"/> 4-7	<input checked="" type="checkbox"/> 7	<input type="checkbox"/> 7-10
<input type="checkbox"/> 10-13	OTHER INFORMATION:		
TOXICITY %			
<input type="checkbox"/> HIGH	<input checked="" type="checkbox"/> MEDIUM	<input type="checkbox"/> LOW	<input type="checkbox"/> UNKNOWN

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	40 % Mineral Spirits	%	%
NON VOLATILE ORGANICS	%	%	%
ACIDS OR ALKALIS	%	%	%
SALTS	%	%	%
METALLICS	%	%	%
CYANIDES - PESTICIDES - CARCINOGENS - OTHER HAZARDOUS/ TOXICS	%	%	%
OTHER	35 % Silicones	%	%
% WATER 25	Odor:	Transportation Method Used Truck	
CORROSIVENESS:	Reactivity	Potential for:	
None	None	A. Bioaccumulation	
		B. Persistence	

*Basis for Toxicity Evaluation

2 Inhalation

1 Dermal

1 Oral

Approved by

C-8

CHEMICAL WASTE CHARACTERIZATION

Figure 23

PLANT LOCATION

SWS Silicones Corporation Adrian, MI

DESCRIPTION OF WASTE

8 RTV - Mineral Spirit Waste

VOLUME	FREQUENCY	PACKING
33,000 gallons	<input type="checkbox"/> PER MONTH <input checked="" type="checkbox"/> PER YEAR <input type="checkbox"/> ONE TIME	<input checked="" type="checkbox"/> IN DRUMS <input type="checkbox"/> IN BULK

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F	VISCOSITY @ 70°F
<input type="checkbox"/> SOLID <input checked="" type="checkbox"/> LIQUID <input type="checkbox"/> SEMISOLID	<input checked="" type="checkbox"/> LOW <input type="checkbox"/> MEDIUM <input type="checkbox"/> HIGH
LAYERING	% LAYERING BY VOLUME AT INFINITE SETTLING
<input checked="" type="checkbox"/> NONE <input type="checkbox"/> BILAYERED <input type="checkbox"/> MULTILAYERED	% TOP _____ % _____ % _____ % BOTTOM
SUSPENDED SOLIDS	DISSOLVED SOLIDS BY WEIGHT
<input checked="" type="checkbox"/> <5% <input type="checkbox"/> 5-20% <input type="checkbox"/> >20%	<input checked="" type="checkbox"/> <5% <input type="checkbox"/> 5-20% <input type="checkbox"/> >20%
SPECIFIC GRAVITY @ 60°F	FLASH POINT (°C)
<input type="checkbox"/> <0.8 <input checked="" type="checkbox"/> 0.8-1.0 <input type="checkbox"/> 1.0-1.2 <input type="checkbox"/> 1.2-1.4 <input type="checkbox"/> 1.4-1.7 <input type="checkbox"/> >1.7	<input type="checkbox"/> < 80°F <input checked="" type="checkbox"/> 80-160°F <input type="checkbox"/> >160°F <input type="checkbox"/> NONE
THOUSANDS OF BTU'S / LB.	ORGANICALLY BOUND CHLORINE (WT. %)
<input type="checkbox"/> <1 <input type="checkbox"/> 1-5 <input type="checkbox"/> 5-9 <input type="checkbox"/> 9-12 <input type="checkbox"/> 12-18 <input checked="" type="checkbox"/> 18-20	<input checked="" type="checkbox"/> NONE <input type="checkbox"/> TRACE <input type="checkbox"/> 1-10% <input type="checkbox"/> 10-30% <input type="checkbox"/> >30%
ORGANICALLY BOUND SULFUR (WT. %)	pH
<input checked="" type="checkbox"/> ONE <input type="checkbox"/> TRACE <input type="checkbox"/> 0.5-5% <input type="checkbox"/> >5%	<input type="checkbox"/> 1-4 <input type="checkbox"/> 4-7 <input checked="" type="checkbox"/> 7 <input type="checkbox"/> 7-10 <input type="checkbox"/> 10-13
TOXICITY *	OTHER INFORMATION:
<input type="checkbox"/> HIGH <input checked="" type="checkbox"/> MEDIUM <input type="checkbox"/> LOW <input type="checkbox"/> UNKNOWN	

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	65-90% Mineral Spirits	%	%	%
NON VOLATILE ORGANICS		%	%	%
ACIDS OR ALKALIS		%	%	%
SALTS		%	%	%
METALLICS		%	%	%
CYANIDES · PESTICIDES · CARCINOGENS · OTHER HAZARDOUS/ TOXICS		%	%	%
OTHER	Silicones Trace% Iron Oxide Fillers	%	%	%
% WATER 10-30	Odor:	Transportation Method Used Truck		
CORROSIVENESS: None	Reactivity None	Potential for: A. Bioaccumulation B. Persistence		

*Basis for Toxicity Evaluation

- 2 Inhalation
- 1 Dermal
- 1 Oral

Approved by

CHEMICAL WASTE CHARACTERIZATION

Figure 24

PLANT LOCATION

SWS Silicones Corporation Adrian, MI

DESCRIPTION OF WASTE

10 Polychlorohydrocarbon Waste

VOLUME 60,000 gallons	FREQUENCY PER MONTH <input type="checkbox"/> PER YEAR <input checked="" type="checkbox"/> ONE TIME <input type="checkbox"/>	PACKING IN DRUMS <input checked="" type="checkbox"/> IN BULK <input type="checkbox"/>
--------------------------	--	--

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F SOLID <input type="checkbox"/> LIQUID <input checked="" type="checkbox"/> SEMISOLID <input type="checkbox"/>	VISCOSITY @ 70°F LOW <input checked="" type="checkbox"/> MEDIUM <input type="checkbox"/> HIGH <input type="checkbox"/>
LAYERING NONE <input checked="" type="checkbox"/> BILAYERED <input type="checkbox"/> MULTILAYERED <input type="checkbox"/>	% LAYERING BY VOLUME AT INFINITE SETTLING % TOP _____ % _____ % _____ % BOTTOM _____
SUSPENDED SOLIDS <5% <input checked="" type="checkbox"/> 5-20% <input type="checkbox"/> >20% <input type="checkbox"/> (WEIGHT) <input checked="" type="checkbox"/> OR VOLUME <input type="checkbox"/>	DISSOLVED SOLIDS BY WEIGHT <5% <input checked="" type="checkbox"/> 5-20% <input type="checkbox"/> >20% <input type="checkbox"/>
SPECIFIC GRAVITY @ 60°F <0.8 <input type="checkbox"/> 0.8-1.0 <input type="checkbox"/> 1.0-1.2 <input checked="" type="checkbox"/> 1.2-1.4 <input type="checkbox"/> 1.4-1.7 <input type="checkbox"/> >1.7 <input type="checkbox"/>	FLASH POINT (°C) < 80°F <input type="checkbox"/> 80-150°F <input type="checkbox"/> >150°F <input type="checkbox"/> NONE <input checked="" type="checkbox"/>
THOUSANDS OF BTU'S / LB. <1 <input type="checkbox"/> 1-5 <input checked="" type="checkbox"/> 5-9 <input type="checkbox"/> 9-12 <input type="checkbox"/> 12-16 <input type="checkbox"/> 16-20 <input type="checkbox"/>	ORGANICALLY BOUND CHLORINE (WT. %) NONE <input type="checkbox"/> TRACE <input type="checkbox"/> 1-10% <input type="checkbox"/> 10-30% <input type="checkbox"/> >30% <input checked="" type="checkbox"/>
ORGANICALLY BOUND SULFUR (WT. %) NONE <input checked="" type="checkbox"/> TRACE <input type="checkbox"/> 0.5-5% <input type="checkbox"/> >5% <input type="checkbox"/>	pH 1-4 <input type="checkbox"/> 4-7 <input checked="" type="checkbox"/> 7 <input type="checkbox"/> 7-10 <input type="checkbox"/> 10-13 <input type="checkbox"/>
TOXICITY * HIGH <input type="checkbox"/> MEDIUM <input type="checkbox"/> LOW <input checked="" type="checkbox"/> UNKNOWN <input type="checkbox"/>	OTHER INFORMATION:

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	%	%	%	%
NON VOLATILE ORGANICS	95-100 % 1,1,1 Trichloroethane	%	%	%
ACIDS OR ALKALIS	%	%	%	%
SALTS	%	%	%	%
METALLICS	%	%	%	%
CYANIDES - PESTICIDES - CARCINOGENS - OTHER HAZARDOUS/ TOXICS	%	%	%	%
OTHER	0-5 % Silicones	%	%	%
% WATER None	Odor:	Transportation Method Used Truck		
CORROSIVENESS: None	Reactivity None	Potential for: A. Bioaccumulation B. Persistence		

*Basis for Toxicity Evaluation

- 1 Inhalation
- 1 Dermal
- 1 Oral

Approved by

C-10

CHEMICAL WASTE CHARACTERIZATION

Figure 25

PLANT LOCATION

SWS Silicones Corporation, Adrian, MI

DESCRIPTION OF WASTE

11 Non-Combustible Waste

VOLUME	FREQUENCY	PACKING
4,000 gallons	<input type="checkbox"/> PER MONTH <input checked="" type="checkbox"/> PER YEAR <input type="checkbox"/> ONE TIME	<input checked="" type="checkbox"/> IN DRUMS <input type="checkbox"/> IN BULK

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F	VISCOSITY @ 70°F
<input type="checkbox"/> SOLID <input checked="" type="checkbox"/> LIQUID <input type="checkbox"/> SEMISOLID	<input checked="" type="checkbox"/> LOW <input type="checkbox"/> MEDIUM <input type="checkbox"/> HIGH
LAYERING	% LAYERING BY VOLUME AT INFINITE SETTLING
<input type="checkbox"/> NONE <input type="checkbox"/> BILAYERED <input checked="" type="checkbox"/> MULTILAYERED	% TOP _____ % BOTTOM _____
SUSPENDED SOLIDS	DISSOLVED SOLIDS BY WEIGHT
<input checked="" type="checkbox"/> <5% <input type="checkbox"/> 5-20% <input type="checkbox"/> >20% WEIGHT OR VOLUME	<input checked="" type="checkbox"/> <5% <input type="checkbox"/> 5-20% <input type="checkbox"/> >20%
SPECIFIC GRAVITY @ 60°F	FLASH POINT (OC)
<input type="checkbox"/> <0.9 <input type="checkbox"/> 0.8-1.0 <input checked="" type="checkbox"/> 1.0-1.2 <input type="checkbox"/> 1.2-1.4 <input type="checkbox"/> 1.4-1.7 <input type="checkbox"/> >1.7	<input type="checkbox"/> <80°F <input type="checkbox"/> 80-150°F <input type="checkbox"/> >150°F <input checked="" type="checkbox"/> NONE
THOUSANDS OF BTU'S / LB.	ORGANICALLY BOUND CHLORINE (WT. %)
<input type="checkbox"/> <1 <input checked="" type="checkbox"/> 1-5 <input type="checkbox"/> 5-9 <input type="checkbox"/> 9-12 <input type="checkbox"/> 12-18 <input type="checkbox"/> 18-20	<input type="checkbox"/> NONE <input type="checkbox"/> TRACE <input type="checkbox"/> 1-10% <input checked="" type="checkbox"/> 10-30% <input type="checkbox"/> >30%
ORGANICALLY BOUND SULFUR (WT. %)	pH
<input checked="" type="checkbox"/> NONE <input type="checkbox"/> TRACE <input type="checkbox"/> 0.5-5% <input type="checkbox"/> >5%	<input type="checkbox"/> 1-4 <input checked="" type="checkbox"/> 4-7 <input type="checkbox"/> 7 <input type="checkbox"/> 7-10 <input type="checkbox"/> 10-13
TOXICITY *	OTHER INFORMATION:
<input type="checkbox"/> HIGH <input type="checkbox"/> MEDIUM <input checked="" type="checkbox"/> LOW <input type="checkbox"/> UNKNOWN	

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	27 % Chlorinated Solvents	%	%	%
NON VOLATILE ORGANICS		%	%	%
ACIDS OR ALKALIS		%	%	%
SALTS		%	%	%
METALLICS		%	%	%
CYANIDES - PESTICIDES - CARCINOGENS - OTHER HAZARDOUS/ TOXICS		%	%	%
OTHER	42 % Siloxane	%	%	%
% WATER 31	Odor:	Transportation Method Used Truck		
CORROSIVENESS: None	Reactivity: None	Potential for: A. Bioaccumulation B. Persistence		

*Basis for Toxicity Evaluation

- 1 Inhalation
- 1 Dermal
- 1 Oral

Approved by

C-11

CHEMICAL WASTE CHARACTERIZATION

Figure 26

PLANT LOCATION

SWS Silicones Corporation Adrian, MI

DESCRIPTION OF WASTE

12 ES - 40 Lites

VOLUME	FREQUENCY	PACKING
400 gallons	<input type="checkbox"/> PER MONTH <input checked="" type="checkbox"/> PER YEAR <input type="checkbox"/> ONE TIME	<input checked="" type="checkbox"/> IN DRUMS <input type="checkbox"/> IN BULK

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F	VISCOSITY @ 70°F
<input type="checkbox"/> SOLID <input checked="" type="checkbox"/> LIQUID <input type="checkbox"/> SEMISOLID	<input checked="" type="checkbox"/> LOW <input type="checkbox"/> MEDIUM <input type="checkbox"/> HIGH
LAYERING	% LAYERING BY VOLUME AT INFINITE SETTLING
<input checked="" type="checkbox"/> NONE <input type="checkbox"/> BILAYERED <input type="checkbox"/> MULTILAYERED	% TOP _____ % _____ % _____ % BOTTOM _____
SUSPENDED SOLIDS	DISSOLVED SOLIDS BY WEIGHT
<input checked="" type="checkbox"/> <5% <input type="checkbox"/> 5-20% <input type="checkbox"/> >20% <input checked="" type="checkbox"/> WEIGHT OR <input type="checkbox"/> VOLUME	<input checked="" type="checkbox"/> <5% <input type="checkbox"/> 5-20% <input type="checkbox"/> >20%
SPECIFIC GRAVITY @ 60°F	FLASH POINT (OC)
<input type="checkbox"/> <0.8 <input checked="" type="checkbox"/> 0.8-1.0 <input type="checkbox"/> 1.0-1.2 <input type="checkbox"/> 1.2-1.4 <input type="checkbox"/> 1.4-1.7 <input type="checkbox"/> >1.7	<input checked="" type="checkbox"/> <80°F <input type="checkbox"/> 80-150°F <input type="checkbox"/> >150°F <input type="checkbox"/> NONE
THOUSANDS OF BTU'S / LB.	ORGANICALLY BOUND CHLORINE (WT. %)
<input type="checkbox"/> <1 <input type="checkbox"/> 1-5 <input type="checkbox"/> 5-9 <input type="checkbox"/> 9-12 <input checked="" type="checkbox"/> 12-18 <input type="checkbox"/> 18-20	<input checked="" type="checkbox"/> NONE <input type="checkbox"/> TRACE <input type="checkbox"/> 1-10% <input type="checkbox"/> 10-30% <input type="checkbox"/> >30%
ORGANICALLY BOUND SULFUR (WT. %)	pH
<input checked="" type="checkbox"/> NONE <input type="checkbox"/> TRACE <input type="checkbox"/> 0.5-5% <input type="checkbox"/> >5%	<input type="checkbox"/> 1-4 <input checked="" type="checkbox"/> 4-7 <input type="checkbox"/> 7 <input type="checkbox"/> 7-10 <input type="checkbox"/> 10-13
TOXICITY *	OTHER INFORMATION:
<input type="checkbox"/> HIGH <input type="checkbox"/> MEDIUM <input checked="" type="checkbox"/> LOW <input type="checkbox"/> UNKNOWN	

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	0-10 % Ethanol	%	%	%
NON VOLATILE ORGANICS	%	%	%	%
ACIDS OR ALKALIS	%	%	%	%
SALTS	%	%	%	%
METALLICS	%	%	%	%
CYANIDES - PESTICIDES - CARCINOGENS - OTHER HAZARDOUS/ TOXICS	%	%	%	%
OTHER	90-100 % Ethyl Silicate	%	%	%
% WATER	None	Odor:	Transportation Method Used	Truck
CORROSIVENESS:	None	Reactivity	Potential for:	
	None	None	A. Bioaccumulation	
			B. Persistence	

*Basis for Toxicity Evaluation

- 1 Inhalation
- 1 Dermal
- 1 Oral

Approved by

CHEMICAL WASTE CHARACTERIZATION

Date: 05/31/83

Revision No.: 0

C

Figure 27

PLANT LOCATION

SWS Silicones Corporation

Adrian, MI

DESCRIPTION OF WASTE

19 Cyclizer Waste

VOLUME

19,000 gallons

FREQUENCY

PER
MONTHPER
YEARONE
TIME

PACKING

IN
DRUMSIN
BULK

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F

SOLID

LIQUID

SEMISOLID

VISCOSITY @ 70°F

LOW

MEDIUM

HIGH

LAYERING

NONE

BILAYERED

MULTILAYERED

% LAYERING BY VOLUME AT INFINITE SETTLING

% TOP

%

%

% BOTTOM

SUSPENDED SOLIDS

<5%

5-20%

>20%

WEIGHT

OR

VOLUME

DISSOLVED SOLIDS BY WEIGHT

<5%

5-20%

>20%

SPECIFIC GRAVITY @ 60°F

<0.8

0.8-1.0

1.0-1.2

1.2-1.4

1.4-1.7

>1.7

FLASH POINT (OC)

< 80°F

80-150°F

>150°F

NONE

THOUSANDS OF BTU'S / LB.

<1

1-5

5-9

9-12

12-16

16-20

ORGANICALLY BOUND CHLORINE (WT. %)

NONE

TRACE

1-10%

10-30%

>30%

ORGANICALLY BOUND SULFUR (WT. %)

E

TRACE

0.5-5%

>5%

pH

1-4

4-7

7

7-10

10-13

TOXICITY *

HIGH

MEDIUM

LOW

UNKNOWN

OTHER INFORMATION:

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	%	%	%	%
NON VOLATILE ORGANICS	60-40 %	Octadecene	%	%
ACIDS OR ALKALIS	%	Potassium	%	%
SALTS	40-60 %	Methyl Silicate	%	%
METALLICS	%	%	%	%
CYANIDES - PESTICIDES - CARCINOGENS - OTHER HAZARDOUS/ TOXICS	%	%	%	%
OTHER	Trace %	Siloxanes	%	%
% WATER	Trace	Odor: Slight	Transportation Method Used	Truck
CORROSIVENESS:	Very	Reactivity None	Potential for: A. Bioaccumulation B. Persistence	

*Basis for Toxicity Evaluation

- 1 Inhalation
- 1 Dermal
- 1 Oral

Approved by

C-13

CHEMICAL WASTE CHARACTERIZATION

Figure 28

PLANT LOCATION

SWS Silicones Corporation

Adrian, MI

DESCRIPTION OF WASTE

30 SWS - 960 Waste

VOLUME

1,000 gallons

FREQUENCY

PER
MONTHPER
YEARONE
TIME

PACKING

IN
DRUMSIN
BULK

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F

SOLID

LIQUID

SEMISOLID

VISCOSITY @ 70°F

LOW

MEDIUM

HIGH

LAYERING

NONE

BILAYERED

MULTILAYERED

% LAYERING BY VOLUME AT INFINITE SETTLING

% TOP

%

%

% BOTTOM

SUSPENDED SOLIDS

<5%

5-20%

>20%

WEIGHT

OR

VOLUME

DISSOLVED SOLIDS BY WEIGHT

<5%

5-20%

>20%

SPECIFIC GRAVITY @ 60°F

<0.8

0.8-1.0

1.0-1.2

1.2-1.4

1.4-1.7

>1.7

FLASH POINT (OC)

<80°F

80-150°F

>150°F

NONE

THOUSANDS OF BTU'S / LB.

<1

1-5

5-9

9-12

12-16

16-20

ORGANICALLY BOUND CHLORINE (WT. %)

NONE

TRACE

1-10%

10-30%

>30%

ORGANICALLY BOUND SULFUR (WT. %)

NONE

TRACE

0.5-5%

>5%

pH

1-4

4-7

7

7-10

10-13

TOXICITY *

HIGH

MEDIUM

LOW

UNKNOWN

OTHER INFORMATION: Upon exposure to air, material turns into rubbery solid.

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	30 % Naphtha	%	%	%
	%	%	%	%
NON VOLATILE ORGANICS	%	%	%	%
ACIDS OR ALKALIS	%	%	%	%
SALTS	%	%	%	%
METALLICS	%	%	%	%
CYANIDES - PESTICIDES - CARCINOGENS - OTHER HAZARDOUS/ TOXICS	%	%	%	%
	%	%	%	%
OTHER	10 % Fillers	60% Silicone Fluids	%	%
% WATER None	Odor:	Transportation Method Used	Truck	
CORROSIVENESS:	Reactivity	Potential for:		
None	None	A. Bioaccumulation		
		B. Persistence		

*Basis for Toxicity Evaluation

- 2 Inhalation
- 1 Dermal
- 1 Oral

Approved by

C-14

CHEMICAL WASTE CHARACTERIZATION

Date: 05/31/83

Revision No.: 0

C

Figure 29

PLANT LOCATION

SWS Silicones Corporation

Adrian, MI

DESCRIPTION OF WASTE

32 HCR Vent Waste

VOLUME

11,000 gallons

FREQUENCY

PER
MONTHPER
YEARONE
TIME

PACKING

IN
DRUMSIN
BULK

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F

SOLID

LIQUID

SEMISOLID

VISCOSITY @ 70°F

LOW

MEDIUM

HIGH

LAYERING

NONE

BILAYERED

MULTILAYERED

% LAYERING BY VOLUME AT INFINITE SETTLING

% TOP

%

%

% BOTTOM

SUSPENDED SOLIDS

<5%

5-20%

>20%

WEIGHT

OR

VOLUME

DISSOLVED SOLIDS BY WEIGHT

<5%

5-20%

>20%

SPECIFIC GRAVITY @ 60°F

<0.8

0.8-1.0

1.0-1.2

1.2-1.4

1.4-1.7

>1.7

FLASH POINT (OC)

< 80°F

80-150°F

>150°F

NONE

THOUSANDS OF BTU'S / LB.

<1

1-5

5-9

9-12

12-16

16-20

ORGANICALLY BOUND CHLORINE (WT. %)

NONE

TRACE

1-10%

10-30%

>30%

ORGANICALLY BOUND SULFUR (WT. %)

NONE

TRACE

0.5-5%

>5%

pH

1-4

4-7

7

7-10

10-13

TOXICITY *

HIGH

MEDIUM

LOW

UNKNOWN

OTHER INFORMATION:

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	<1 % Methanol	%	%	%
	%	%	%	%
NON VOLATILE ORGANICS	%	%	%	%
ACIDS OR ALKALIS	%	%	%	%
SALTS	%	%	%	%
METALLICS	%	%	%	%
CYANIDES - PESTICIDES - CARCINOGENS - OTHER HAZARDOUS/ TOXICS	%	%	%	%
OTHER	Trace % Triethylamine	% Trace Organic Peroxides	5- 20 % Siloxane Lites	5- 30 % SiO ₂ Filler
% WATER 60-80	Odor:	Transportation Method Used Truck		
CORROSIVENESS:	Reactivity	Potential for:		
None	None	A. Bioaccumulation B. Persistence		

*Basis for Toxicity Evaluation

- 1 Inhalation
- 1 Dermal
- 1 Oral

Approved by

C-15

CHEMICAL WASTE CHARACTERIZATION

Figure 30

PLANT LOCATION

SWS Silicones Corporation Adrian, MI

DESCRIPTION OF WASTE

40 Bulk Ignitables Waste

VOLUME

21,400 gallons

FREQUENCY

PER
MONTHPER
YEARONE
TIME

PACKING

IN
DRUMSIN
BULK

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F

SOLID

LIQUID

SEMISOLID

VISCOSITY @ 70°F

LOW

MEDIUM

HIGH

LAYERING

NONE

BILAYERED

MULTILAYERED

% LAYERING BY VOLUME AT INFINITE SETTLING

% TOP

%

%

% BOTTOM

SUSPENDED SOLIDS

<5%

5-20%

>20%

WEIGHT

OR

VOLUME

DISSOLVED SOLIDS BY WEIGHT

<5%

5-20%

>20%

SPECIFIC GRAVITY @ 60°F

<0.8

0.8-1.0

1.0-1.2

1.2-1.4

1.4-1.7

>1.7

FLASH POINT (OC)

< 80°F

80-160°F

>160°F

NONE

THOUSANDS OF BTU'S / LB.

<1

1-5

5-9

9-12

12-16

16-20

ORGANICALLY BOUND CHLORINE (WT. %)

NONE

TRACE

1-10%

10-30%

>30%

ORGANICALLY BOUND SULFUR (WT. %)

E

TRACE

0.5-5%

>5%

pH

1-4

4-7

7

7-10

10-13

TOXICITY *

HIGH

MEDIUM

LOW

UNKNOWN

OTHER INFORMATION:

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	Aromatic 2 % Hydrocarbons		Aliphatic 40-60 % Hydrocarbons		%	%
					%	%
NON VOLATILE ORGANICS	0-4 % 1,1,1 trichloroethane				%	%
ACIDS OR ALKALIS					%	%
SALTS					%	%
METALLICS					%	%
CYANIDES - PESTICIDES - CARCINOGENS - OTHER HAZARDOUS/ TOXICS					%	%
					%	%
OTHER	40-60% Siloxanes				%	%
% WATER	2-5	Odor:	Transportation Method Used Tanker Truck			
CORROSIVENESS:	None	Reactivity	Potential for: A. Bioaccumulation B. Persistence			
		None				

*Basis for Toxicity Evaluation

- 2 Inhalation
- 1 Dermal
- 2 Oral

Approved by

CHEMICAL WASTE CHARACTERIZATION

Date: 05/31/83

Revision No.: 0

C

Figure 31

PLANT LOCATION

SWS Silicones Corporation Adrian, MI

DESCRIPTION OF WASTE

41 Bulk Polychlorohydrocarbon Waste

VOLUME

60,000 gallons

FREQUENCY

PER
MONTHPER
YEARONE
TIME

PACKING

IN
DRUMSIN
BULK

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F

SOLID

LIQUID

SEMISOLID

VISCOSITY @ 70°F

LOW

MEDIUM

HIGH

LAYERING

NONE

BILAYERED

MULTILAYERED

% LAYERING BY VOLUME AT INFINITE SETTLING

% TOP

%

%

% BOTTOM

SUSPENDED SOLIDS

<5%

5-20%

>20%

WEIGHT

OR

VOLUME

DISSOLVED SOLIDS BY WEIGHT

<5%

5-20%

>20%

SPECIFIC GRAVITY @ 60°F

<0.8

0.8-1.0

1.0-1.2

1.2-1.4

1.4-1.7

>1.7

FLASH POINT (OC)

<80°F

80-150°F

>150°F

NONE

THOUSANDS OF BTU'S / LB.

<1

1-5

5-9

9-12

12-16

16-20

ORGANICALLY BOUND CHLORINE (WT. %)

NONE

TRACE

1-10%

10-30%

>30%

ORGANICALLY BOUND SULFUR (WT. %)

NONE

TRACE

0.5-5%

>5%

pH

1-4

4-7

7

7-10

10-13

TOXICITY *

HIGH

MEDIUM

LOW

UNKNOWN

OTHER INFORMATION:

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

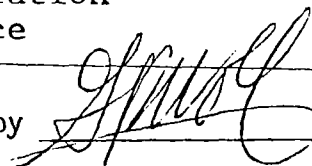
VOLATILE ORGANICS	%	%	%	%
NON VOLATILE ORGANICS	95-100%	1,1,1 trichloroethane	%	%
ACIDS OR ALKALIS	%	%	%	%
SALTS	%	%	%	%
METALLICS	%	%	%	%
CYANIDES - PESTICIDES - CARCINOGENS - OTHER HAZARDOUS/ TOXICS	%	%	%	%
OTHER	0-5 % Siloxanes	%	%	%
% WATER None	Odor:	Transportation Method Used Tanker Truck		
CORROSIVENESS: None	Reactivity None	Potential for: A. Bioaccumulation B. Persistence		

*Basis for Toxicity Evaluation

- 1 Inhalation
- 1 Dermal
- 1 Oral

C-17

Approved by



CHEMICAL WASTE CHARACTERIZATION

Figure 32

PLANT LOCATION

SWS Silicones Corporation

Adrian, MI

DESCRIPTION OF WASTE

42 Bulk Mineral Spirits Waste

VOLUME

33,000 gallons

FREQUENCY

PER
MONTHPER
YEARONE
TIME

PACKING

IN
DRUMSIN
BULK

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F

SOLID

LIQUID

SEMISOLID

VISCOSITY @ 70°F

LOW

MEDIUM

HIGH

LAYERING

NONE

BILAYERED

MULTILAYERED

% LAYERING BY VOLUME AT INFINITE SETTLING

% TOP

%

%

% BOTTOM

SUSPENDED SOLIDS

<5%

5-20%

>20%

WEIGHT

OR

VOLUME

DISSOLVED SOLIDS BY WEIGHT

<5%

5-20%

>20%

SPECIFIC GRAVITY @ 60°F

<0.8

0.8-1.0

1.0-1.2

1.2-1.4

1.4-1.7

>1.7

FLASH POINT (OC)

< 80°F

80-160°F

>160°F

NONE

THOUSANDS OF BTU'S / LB.

<1

1-5

5-9

9-12

12-16

16-20

ORGANICALLY BOUND CHLORINE (WT. %)

NONE

TRACE

1-10%

10-30%

>30%

ORGANICALLY BOUND SULFUR (WT. %)

NONE

TRACE

0.5-5%

>5%

pH

1-4

4-7

7

7-10

10-13

TOXICITY *

HIGH

MEDIUM

LOW

UNKNOWN

OTHER INFORMATION:

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	65-90 %	Mineral Spirits	%	%	%
NON VOLATILE ORGANICS	%		%	%	%
ACIDS OR ALKALIS	%		%	%	%
SALTS	%		%	%	%
METALLICS	%		%	%	%
CYANIDES · PESTICIDES · CARCINOGENS · OTHER HAZARDOUS/ TOXICS	%		%	%	%
OTHER	2-5 %	Siloxanes	%	Trace Iron Oxide	%
% WATER	10-30	Odor:		Trace SiO ₂ Fillers	%
CORROSIVENESS:	None	Reactivity	None	Potential for:	
				A. Bioaccumulation	
				B. Persistence	

*Basis for Toxicity Evaluation

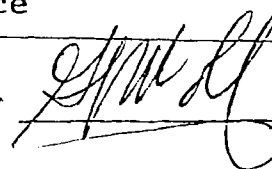
2 Inhalation

1 Dermal

1 Oral

C-18

Approved by



The following wastes are generated as a result of general cleanup in the plant for the various batch mixing tanks and reactors:

- Mixed Alcohol (Figure 17)
- Hydrocarbon, Extremely Flammable (Figure 18)
- Hydrocarbon, Flammable (Figure 19)
- Hydrocarbon, Combustible (Figure 20)
- Solvent Sump (Figure 22)
- Mineral Spirits (Figures 23 and 32)
- Polychlorohydrocarbon (Figures 24 and 31)

The following wastes are generated as by-products or wastes from various plant processes:

- Mixed Alcohol (Figure 17)
- Hydrocarbon, Extremely Flammable (Figure 18)
- ES-40 Lites (Figure 26)
- Cyclizer (Figure 27)
- SWS-960 (Figure 28)
- HCR Vent (Figure 29)

Also, the following wastes are generated from the Technical Center Laboratories:

- Flammable Waste, Tech Center (Figure 21)
- Non-Combustible Waste (T.C.) (Figure 25)

Bulk polychlorohydrocarbon waste (Figure 31) is the same as drummed Polychlorohydrocarbon Waste (Figure 24). In general, the majority of this waste is stored in the 25,000-gallon storage tank, T-101. The volume of 60,000 gallons indicated in both Figures 24 and 31, is the total overall volume per year. The Bulk polychlorohydrocarbon waste is sold to a solvent reclaimer.

Bulk Ignitables Wastes (Figure 30) is a combination of the following drummed wastes:

Mixed Alcohol (Figure 17)
Hydrocarbon - Extremely Flammable (Figure 18)
Hydrocarbon - Flammable (Figure 19)
Hydrocarbon - Combustible (Figure 20)
ES-40 Lites (Figure 26)

The volume of 21,400 gallons for Bulk Ignitables Waste (Figure 30) is the accumulative total of the above annual volumes. The majority of this waste is in bulk form (T-105) and is disposed at a cement kiln or at an incinerator.

Bulk Mineral Spirits Waste (Figure 32) is the same as drummed Mineral Spirits Waste (Figure 23). In general, the majority of this waste is stored in the 15,000-gallon storage tank, T-108. The volume of 33,000 gallons indicated in both Figures 23 and 32, is the total overall volume per year. The majority of this waste is stored in bulk form, and is disposed at a cement kiln or at an incinerator.

Waste Handling: All drummed wastes are labeled; the label describes the contents of each drum and its associated hazard (corrosivity, toxicity or ignitability). Bulk tank, T-101 is labeled "Polychloro-hydrocarbon." Bulk tank, T-105, is labeled "Flammable." Bulk tank, T-108, is labeled "Combustible." This practice informs workers handling these wastes of the associated hazards so that the appropriate precautions can be taken.

Some examples of appropriate precautions include: grounding drums, tote tanks or trucks during transfer operations; no smoking; and wearing protective equipment such as gloves, hard hats, safety glasses and safety shoes.

Details regarding the tanks, containers, storage areas, and personnel training are presented in other sections of this application. General information and hazardous characteristics of the waste types are included in Appendix A.

C-2 Waste Analysis Plan [40 CFR 122.25(a)(3)]

C-2a Parameters and Rationale

Table 2 shows the hazardous wastes stored at the facility, the analytical parameters that apply to each, and the rationale for their selection.

C-2b Test Methods

Table 3 shows the test methods that are used to measure the analytical parameters. All test methods are from EPA approved methods.

C-2c Sampling Methods

Table 4 lists methods used to sample hazardous wastes.

C-2d Frequency of Analyses

As shown on Table 5, each waste is analyzed annually. Wastes generated at this facility do not change significantly. Additional analyses will be performed if a process change should affect the hazardous characteristics of a waste.

C-2e Additional Requirements for Waste Generated Offsite

This facility only stores on-site generated wastes; therefore, requirements for wastes received from off-site generators do not apply. This facility does not treat nor dispose any wastes on-site.

TABLE 2
PARAMETERS AND RATIONALE FOR THEIR SELECTION

Hazardous Waste	Parameter	Rationale
<u>Drums</u>		
Mixed Alcohol	Flash point, Methanol	This waste is ignitable. Practical flash point of 68-77°F. This is also a listed toxic waste (F003).
Hydrocarbon, Extremely Flammable	Flash point	This waste is ignitable. Practical flash point of 25-34°F.
Hydrocarbon, Flammable	Flash point, Xylene	This waste is ignitable. Practical flash point of 68-77°F. This is also a listed toxic waste (F003).
Hydrocarbon, Combustible	Flash point	This waste is ignitable. Practical flash point of 104-113°F.
Flammable, Tech Center	Flash point, Xylene Acetone	This waste is ignitable. Practical flash point of 68-77°F. This is also a listed toxic waste (F003).
Solvent Sump	Flash point	This waste is ignitable. Practical flash point of 104-113°F.
Mineral Spirits	Flash point	This waste is ignitable. Practical flash point of 104-113°F.
Polychlorohydrocarbon	1,1,1 trichloroethane	This is a listed toxic waste (F002)
Non-Combustible, Tech Center	1,1,1 trichloroethane	This is a listed toxic waste (F002)
ES-40 Lites	Flash point	This waste is ignitable. Practical flash point of 68-77°F.
Cyclizer	pH, Flash point	This waste has a pH value greater than 13, making it a corrosive waste. Also this waste is ignitable with a practical flash point of 122-131°F.
SWS-960	Flash point	This waste is ignitable. Practical flash point of 59-68°F.
HCR Vent	Flash point	This waste is ignitable. Practical flash point of 80-86°F.
<u>Tanks</u>		
Bulk Ignitables	Flash point. Methanol 1,1,1 trichloroethane Xylene	This waste is ignitable. Practical flash point of 25-113°F. Listed toxic waste F002, F003.
Bulk Polychlorohydrocarbon	1,1,1 trichloroethane	This is a listed toxic waste (F002)
Bulk Mineral Spirits	Flash point	This waste is ignitable. Practical flash point of 104-113°F.

TABLE 3
PARAMETERS AND TEST METHODS

Parameter	Test Method	Reference
pH	Electrometric	--
Flash point	Pensky-Martens Closed Cup Tester Tag Closed Cup Tester	ASTM Standards D-93-81 or E-134-81 D-56-81
1,1,1-tri- chloroethane	GC/MS	Purgeable Hydro- carbons-Method 601 Federal Register, Vol. 44, No. 233, p. 69468
Acetone Methanol Xylene	NMR or GC	Purgeable Hydro- carbons - Method 601 Federal Register, Vol. 44, No. 233, p. 69468

TABLE 4

METHODS USED TO SAMPLE HAZARDOUS WASTES

Hazardous Waste	Sampling Method	Description of Sampling	Reference of Sampler
Drummed Wastes*	"Coliwasa" Composite Liquid Waste Sampler	Representative composite samples from random drums.	"Samplers and Sampling Procedures for Hazar- dous Waste Streams", EPA 600/2-80-018, January 1980.
Storage Tank Wastes*	Sampling a Storage Tank from "Samplers and Sampling Pro- cedures for Hazar- dous Waste Streams", EPA 600/2-80-018, January 1980. (If annual sample is required.)	Representative composite tank outlet samples at the beginning and end of each tanker shipment.	"Samplers and Sampling Procedures for Hazar- dous Waste Streams", EPA 600/2-80-018, January 1980.

*Refer to Table 2.

TABLE 5
FREQUENCY OF ANALYSES

Hazardous Waste	Analysis	Frequency
<u>Drums:</u>		
Mixed Alcohol	Flash Point Methanol	Annually
Hydrocarbon, Extremely Flammable	Flash Point	Annually
Hydrocarbon, Flammable	Flash Point Xylene	Annually
Hydrocarbon, Combustible	Flash Point	Annually
Flammable, Tech Center	Flash Point Xylene Acetone	Annually
Solvent Sump	Flash Point	Annually
Mineral Spirits	Flash Point	Annually
Polychlorohydrocarbon	1,1,1-trichloroethane	Annually
Non-Combustible, Tech Center	1,1,1-trichloroethane	Annually
ES-40 Lites	Flash Point	Annually
Cyclizer	Flash Point pH	Annually
SWS-960	Flash Point	Annually
HCR Vent	Flash Point	Annually
<u>Tanks:</u>		
Bulk Ignitables	Flash Point Methanol 1,1,1-trichloroethane xylene	Every shipment OR annually
Bulk Polychlorohydrocarbon	1,1,1-trichloroethane	Every shipment OR annually
Bulk Mineral Spirits	Flash Point	Every shipment OR annually

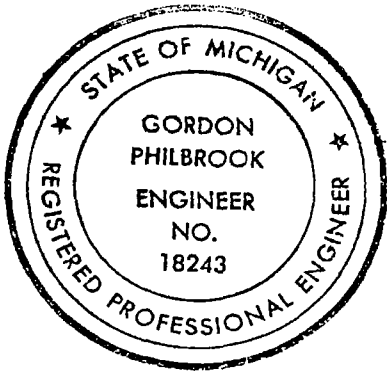
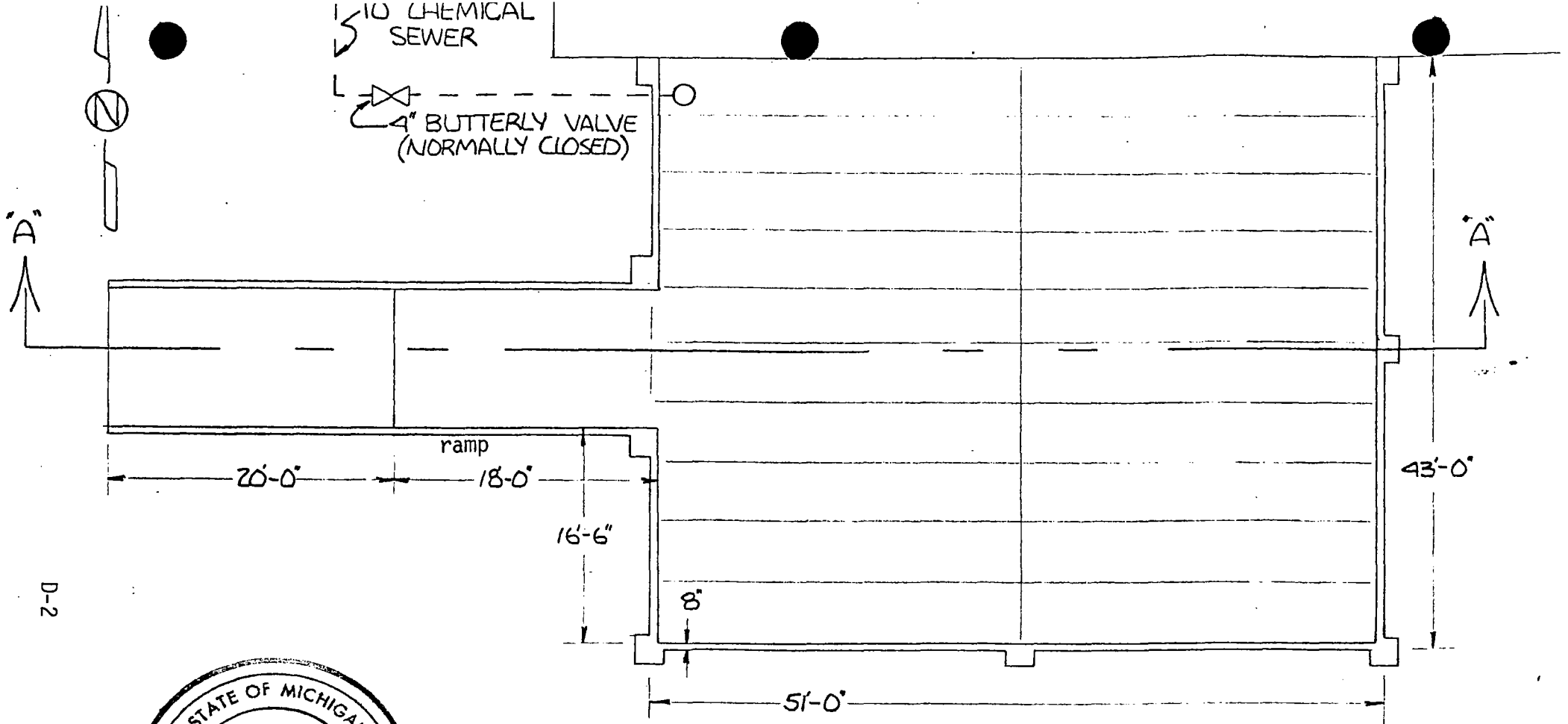
SECTION D

PROCESS INFORMATION

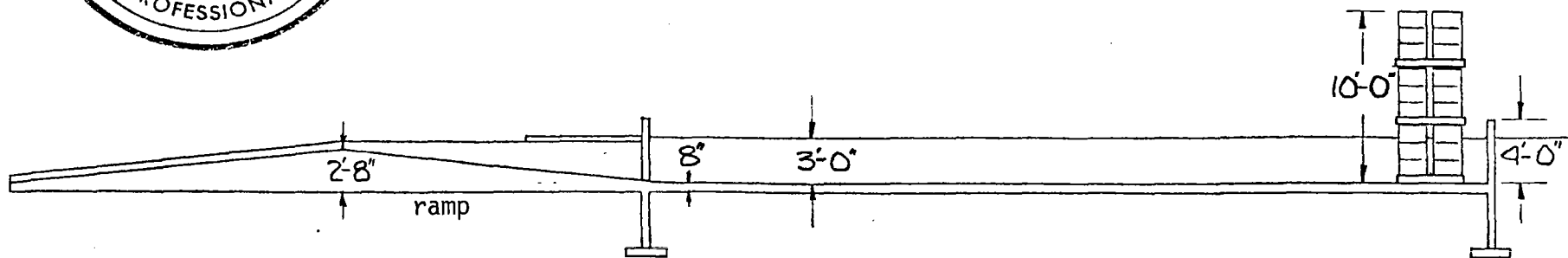
D-1 Containers [40 CFR 122.25(b)(1)]

D-1a Containers

The maximum inventory of drums in storage at any given time during the operating life of the facility is not expected to exceed 300 drums. (The maximum allowable number of drums, according to E.P.A. regulations, would be 800 drums). The container storage area, which is located outdoors at the east end of the facility currently holds approximately 90 containers. Drummed wastes, listed on Table 1, all contain free liquids. Consequently, specific information provided in this section will follow a format required for containers storing free liquids. There is 2,100 ft² in the container storage area, 60 ft² for ramp area (inside storage area), and approximately 940 ft² for aisle space. The remaining approximately 1,100 ft² is the actual storage area. A plan layout drawing of the Hazardous Waste Storage Pad is provided in Figure 33. Stacked to a maximum of three drums high, the container storage area may hold a capacity of approximately 800 drums (according to EPA regulations). However, the maximum capacity according to Michigan Department of Natural Resources Regulations is 300 drums. The average inventory of drums at any given time is approximately 90-100 drums.



SWS SILICONES CORP.
 PLAN LAYOUT HAZARDOUS WASTE STORAGE PAD
 SCALE $\frac{3}{32}'' = 1'-0''$



SECTION "A-A" HAZARDOUS WASTE STORAGE PAD
 SCALE $\frac{3}{32}'' = 1'-0''$

Figure 33

Date: 05/31/83
 Revision No.: 0

CJM 2-8-SZ

D-1a(1) Description of Containers

Steel 55-gallon drums are used at the facility to store the wastes mentioned above in D-1a. The drums are constructed of low carbon steel that meet U.S. Department of Transportation Specification No. 17E. Some drums, used for in-plant storage and transfer operations, are steel drums in good condition. Cyclizer Waste (Figure 27) and HCR Vent Waste (Figure 29) are stored in white D.O.T. 17H open head drums. These drums are protected against corrosion by epoxy phenolic linings.

Steel or aluminum 400-500 gallon tote containers (12x12x12 gauge thickness) are used in transferring spent solvents from satellite production areas to the bulk storage tanks, within three days. These containers are properly labeled and sealed.

D-1a(2) Container Management Practices

Prior to transfer to the container storage area, wastes generated in the production areas are placed in the proper drums, sealed, dated and labeled according to Department of Transportation regulations for hazardous materials. Production area operators transfer drummed wastes by forklift trucks from the production areas to a "hold area". At this "hold area," the Warehouse operators sort out hazardous and non-hazardous wastes, and transfer these drums to the appropriate container storage areas. This procedure is completed within three days.

At SWS Silicones Corporation, there are no sources of ignition, such as an open flame.

The drums are stored on pallets to elevate them from contact with standing liquids, and if necessary, the drums are stacked as high as 10 feet (3 drums). Sufficient aisle space of at least 4 feet, every other row, is maintained at all times, and the container storage area

is inspected regularly (see Section F-2).

D-1a(3) Secondary Containment System Design and Operation

The container storage area pad is constructed of concrete, designed for loads of 28 lb/in². A 4-ft.-high concrete curb lines three sides and a 3-ft.-high curb lines one side of the storage pad perimeter.

There is a 2-ft. high entrance ramp to the pad. This pad will provide a holding capacity of 31,000 gallons, or more than 150 percent of the total volume held by the estimated maximum inventory. The concrete pad is presently in good condition, free of any gaps, holes or cracks. The base of the storage area is constructed of 8-in. thick concrete, reinforced with 6" x 6" wire mesh. The total storage pad is slightly sloped toward the sump area at the northwest corner. The pad will be regularly inspected as discussed in Section F-2 to ensure that it remains impervious and in good condition. The sump area has a drain valve connecting to the chemical sewer. This drain valve is normally closed. After inspection, it is opened to drain rainwater [see Section D-1a(4)].

Run-on is prevented from entering the containment area by the pad walls, and by the fact that the land surrounding the area is graded to encourage drainage away from the area.

D-1a(4) Removal of Liquids From Containment System

The container storage area has a holding capacity of approximately 31,000 gallons. The pad walls and the 2-ft.-high ramp provides a containment area for precipitation, leaks or spills. The drain valve, which is normally closed, connects the pad sump area to the

chemical sewer system. This valve is opened ONLY for stormwater, whenever necessary. Hazardous wastes do not enter the chemical sewer system. The chemical sewer system goes to the NPDES treatment system.

Any spills of drummed material will be pumped into drums and disposed properly off-site.

D-1b Containers Without Free Liquids

SWS Silicones Corporation does not currently manage containers without free liquids. Therefore, Permit Application Sections D-1b, D-1b(1), D-1b(2), D-1b(3), and D-1b(4) are not applicable.

D-2 Tanks [40 CFR 122.25(b)(2)]

D-2a Description of Tanks

One 25,000-gallon horizontal tank, designated as T-101, provides storage for spent 1,1,1-trichloroethane solvent waste. Two 15,000 gallon vertical tanks, designated as T-105 and T-108, provide storage for mixed ignitable solvent wastes and mineral spirits waste, respectively. T-101 has been fabricated and stamped in accordance with ASME Code Section VIII. T-105 and T-108 have been fabricated and stamped in accordance with API STD 650 Code. The design ratings for T-101 are 200 psi and 150°F. The design ratings for both T-105

and T-108 are 0.5 psi and ambient temperature.

The maximum allowable stress values (in tension) are 13,750 psi for T-101, and 12,650 psi for T-105 and T-108. The following describes the wastes stored in each tank:

	<u>Waste</u>	<u>Specific Gravity</u>	<u>Vapor Pressure</u> (mm Hg @ 20°C)
T-101	Bulk Polychlorohydrocarbon Waste	1.2	100
T-105	Bulk Ignitables Waste	0.96	100*
T-108	Bulk Mineral Spirits Waste	0.80	0.5

*This vapor pressure value is for cyclohexane, one of the major components in this mixed Bulk Waste. See section C for further details on waste characteristics.

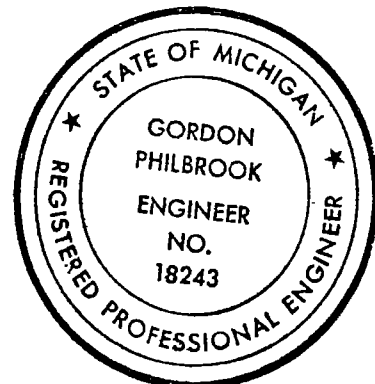
Table 6 provides the individual tank dimensions and physical characteristics. Copies of the tank drawings are presented in Figures 34 and 35.

D-2b Tank Corrosion and Erosion

Storage tanks, T-101, T-105, and T-108 have no internal linings. The solvent wastes in these tanks have a pH range of 5-9. The external tank shells do have white protective paint coatings to

TABLE 6
PHYSICAL CHARACTERISTICS OF STORAGE TANKS

Item	Tank Identification No.		
	T-101	T-105	T-108
Orientation	horizontal	vertical	vertical
Capacity, gallons	25,000	15,000	15,000
Dimensions, in.			
Straight side	492	216	216
Diameter (O.D.)	120	143	143
Shell thickness, in.			
design	1.125	0.25	0.25
actual	1.109	0.25	0.25
Material	Mild Steel	Mild Steel	Mild Steel



Submitted

Date: 5/31/83

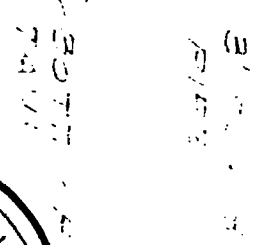
Revision No.: 01

7/28/83

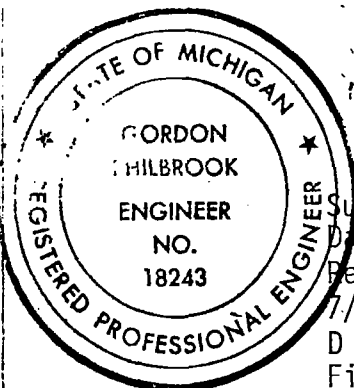
D

Figure 34 T-101 Drawing

ALL
DIM
ARE
TAN



Submitted
Date: 5/31/83
Revision No.: 01
7/28/83
D
Figure 35: T-105 and
T-108 Drawings



NOZZLE SERVICE	
MARK	SIZE
A	3"
B	2"
C	1"
D	3/4"
MW	2 1/2"
V	3"

10	5/8" x 1/4" L x B	40mm
1	LARGE 16" W x 25" H	40mm
1	TANK	40mm
SHIPPING LIST FORM (1) TANK		

WO 94 62

NO	REVISION	DATE
4	REVISION TEST	1-14-65
3	ACD LIST LINES 4 AND 5	12-31-64
2	WAS LOST 12-31-64	
1	WAS LOST 12-31-64	

X-RAY STAMP
M-283-C
BOOTH IN FOOT
STRAPLESS
STANDARD SEEN.
PR-825-6021
COVERED FOR PROTECTION
TAKES WITH ME IN ACCORDANCE
WITH MRL 650

341-71
REV-21

REC'D
S-1
A.C.A.
D.I.G.S.

NOTES & ATTACH.
LADIES & GENTLEMEN
M.D. LADIES BRUNET

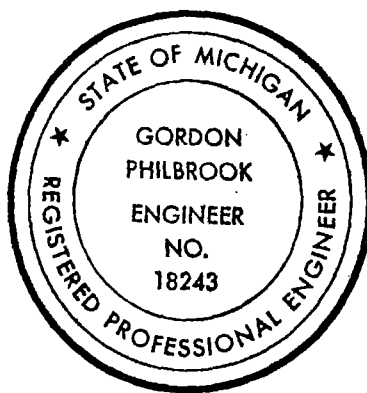
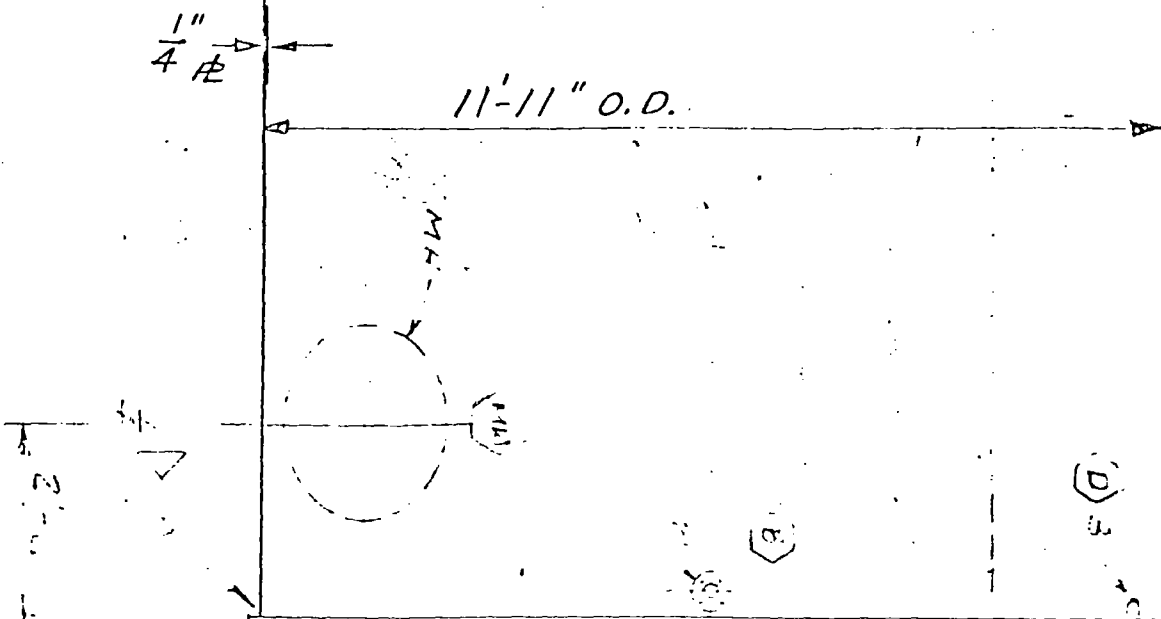
7-10-1944

(1) 743 7-105 APER
(1) 743 7-103 APER
CAPACITY 14900 GALL. WA.
HOT FILLION WATER 135000 LBS. EA
SHIPPING. WGT. 11000 LB. EA.

BUFFALO TANK DIVISION T-105 &
BETHLEHEM STEEL COMPANY T-108

ST. LOUIS, MO. CHRYSLER CREDIT CORP.

DATE 12-20-00		CUST. ORDER	DRAWING
DRAWN A.S.		CONTRACT	B-12082
CHECKED		37.877	REV 4



Submitted
 Date: 5/31/83
 Revision No.: 01
 7/28/83
 D
 Figure 35 T-105 and
 T-108 Drawing
 (page 2)

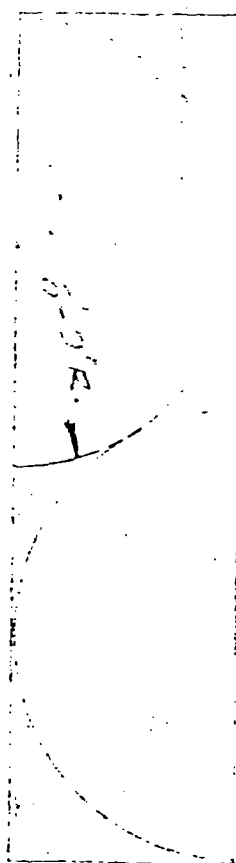
NOMINAL DIAMETER 11'-11"
 NOMINAL HEIGHT 18'-0"
 NOMINAL CAPACITY 357 BARRELS (42 GAL)

NO. 650

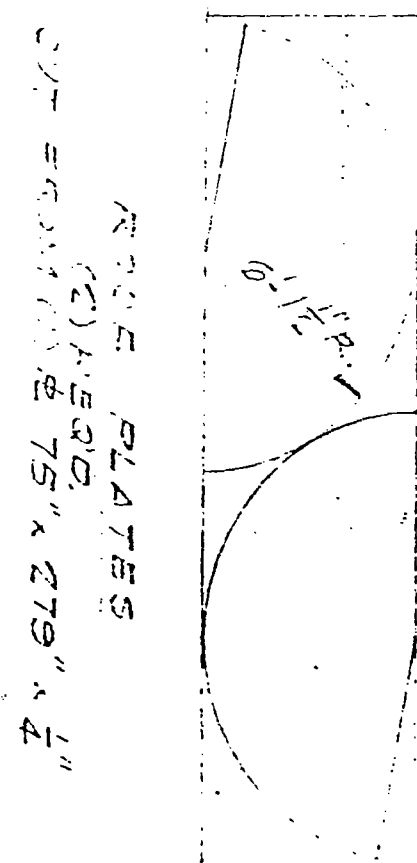


YEAR 1964

BUFFALO TANK CO.



D-9



ROUGH PLATES

NO. 650 75" x 279" x 1/4"

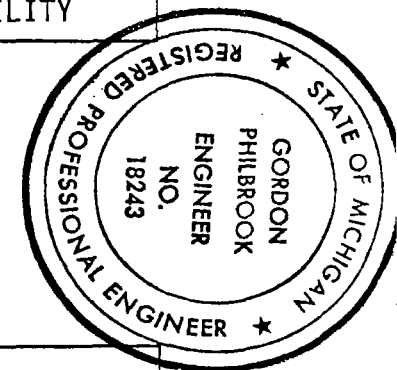
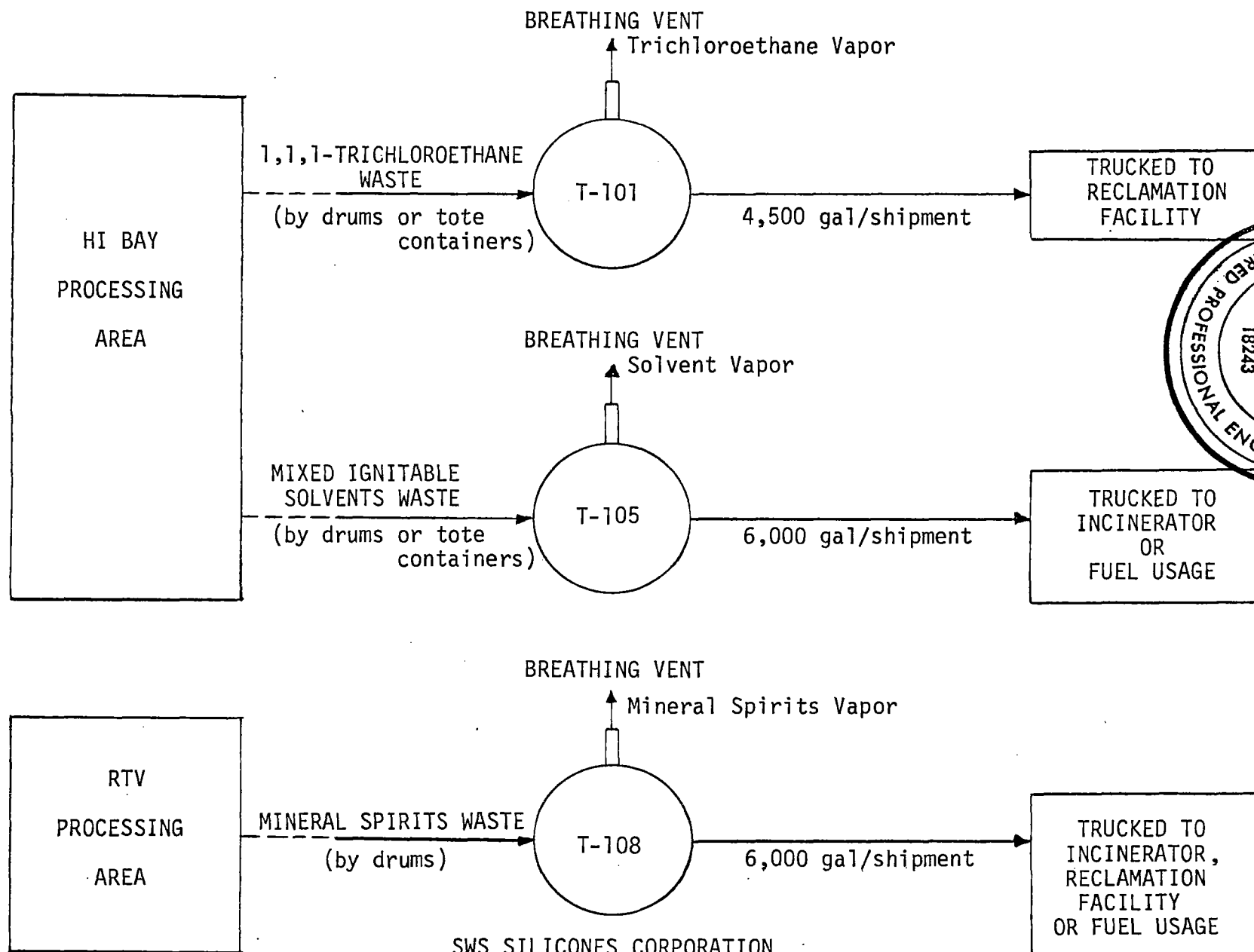
resist corrosion. According to manufacturer specifications, the corrosion allowance for the service life of the tanks is 1/16 inch.

D-2c Tank Management Practices

A simplified process flow diagram for all three tanks is shown in Figure 36. Also, a piping and instrumentation diagram showing the three storage tanks, instrumentation, and valving is presented in Figure 37.

T-101: Spent 1,1,1-trichloroethane solvent wastes, generated from the HiBay processing area, are transported via drums and tote containers to T-101. When there is a sufficient volume, the solvent waste is pumped to a tanker (by use of an air-operated diaphragm pump) and transported to a licensed reclamation facility. The T-101 storage tank is situated on a 28-ft by 64-ft concrete pad, surrounded by a 3½ to 4-ft-high, 6-inch reinforced concrete wall. The pad base is 4 inches thick and reinforced with 6 x 6 - #6 rods. The T-101 storage tank, oriented horizontally, is supported by two saddles (reinforced by 1" rods) and which set on concrete slabs (also reinforced by 1" rods). The dimension of the slabs is 4' x 12 1/2' x 1 1/4' thick. The load bearing capacities are 3,000 psi for the support slabs and 1,350 psi for the pad base. The volume in T-101 is accurately recorded in a log book every time there is a drum or tote container transfer. This batch-wise process would take at least six months to fill the tank. However, usually there is a shipment before the tank gets two-thirds full. Methods to prevent overfilling of T-101 include accurate inventory control (batch-wise filling only of one drum or one 450-gallon tote-tank at a time), and level sight glass.

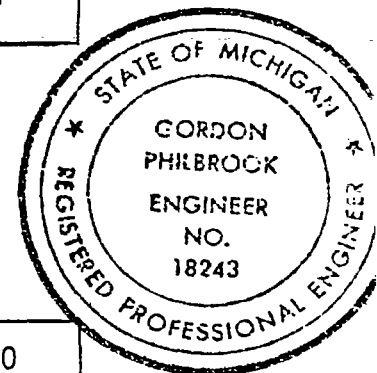
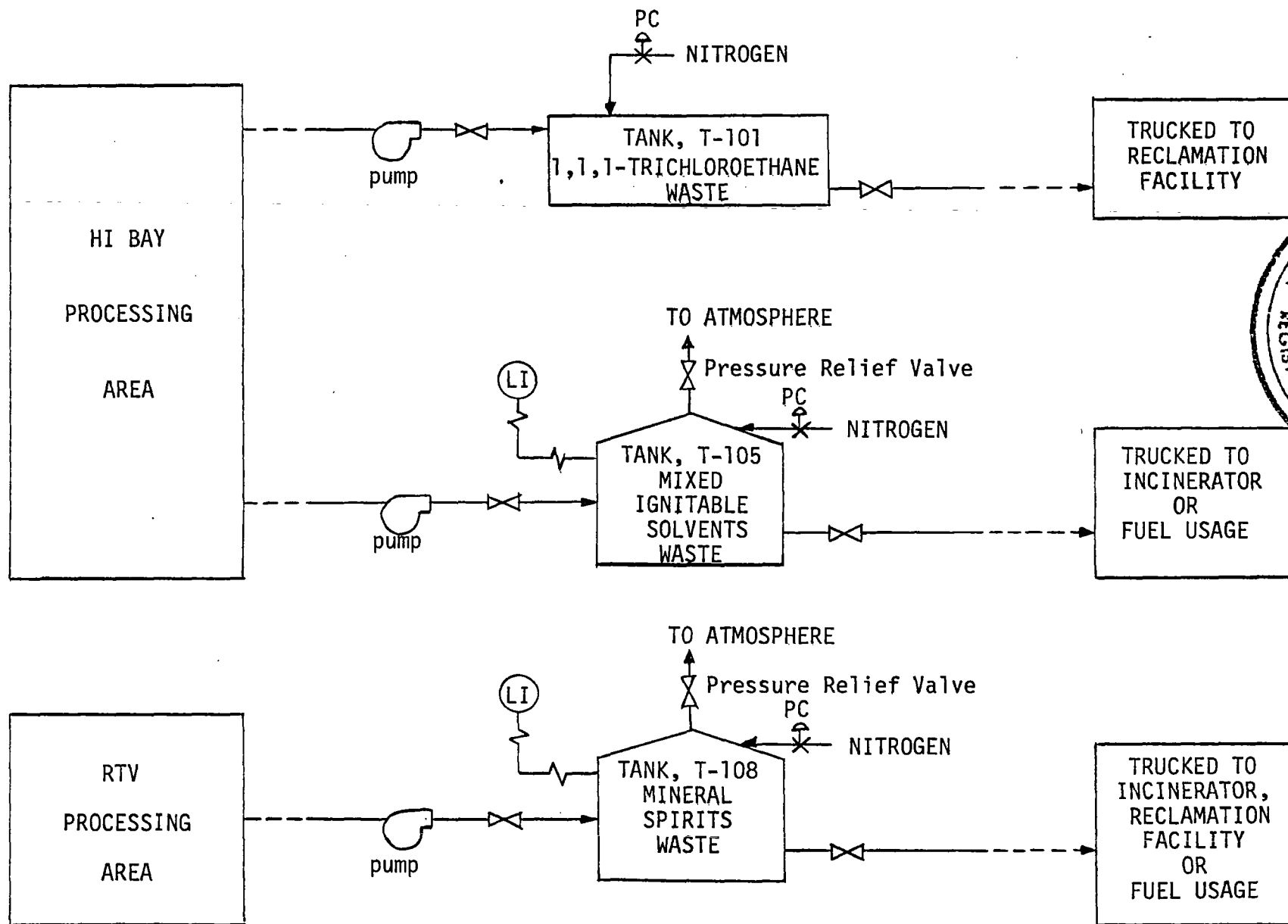
D-12



SWS SILICONES CORPORATION
Figure 36 Process Flow Diagram

Submitted
Date: 5/31/83
Revision No.: 01
7/28/83
D

D-13



NOTE: (LI) Level Indicator
PC Pressure Control

SWS SILICONES CORPORATION

Figure 37 Piping and Instrumentation Diagram for Hazardous Waste Storage in Tanks

Date: 5/31/83
Revision No.: 0
D

T-105: Mixed ignitable solvent wastes, generated from the HiBay processing area, are transported via drums and tote containers to T-105. When there is a sufficient volume, the solvent waste is pumped to a tanker (by use of an air-operated diaphragm pump) and transported either to an incinerator facility or to an approved facility to be used as a fuel.

T-108: Mineral Spirits Waste, generated from the RTV (Room Temperature Vulcanizing) processing area, are transported via drums to T-108. When there is a sufficient volume, the solvent waste is pumped to a tanker (by use of an air-operated diaphragm pump) and transported to an incinerator facility, an approved facility for fuel usage, or a reclamation facility.

The T-105 and T-108 storage tanks are situated on a 32½-ft by 62-ft concrete pad, surrounded by a 4-ft-high, 6-inch reinforced concrete wall. There is a 6-inch concrete wall separating the two tanks. The portion of the concrete pad directly underneath the tanks is 8-inches thick and reinforced with 6 x 6-6/6 wire. The remaining concrete pad area is 4-inches thick and reinforced with 6 x 6 x 6 mesh. The load bearing capacities are 2,500 psi for the portion directly underneath the tanks, and 28 psi for the remaining area of the concrete pad. The pressure relief valves installed on T-105 and T-108 are rated at 0.5 psi. T-105 and T-108 have mechanical float level indicators, which are inspected weekly. The volumes in both tanks are accurately recorded in log books every time there is a transfer. This batch-wise process would take at least six

months to fill the tanks. However, usually there is a shipment before the tanks get two-thirds full.

Methods to prevent overfilling of T-105 and T-108 include accurate inventory control (batch-wise filling only of one drum or one 450-gallon tote-tank at a time), float level indicators, and special overflow drain pipes to the diked area pad.

D-3 Waste Piles [40 CFR Sections 122.25(b)(4), 264.250, 264.251, 264.252, 264.253]

SWS Silicones Corporation does not have any waste piles. Thus, Section D-3 is not applicable.

D-4 Surface Impoundments [40 CFR Sections 122.25(b)(3) and 264.220-264.223]

SWS Silicones Corporation does not manage a surface impoundment; therefore, Section D-4 is not applicable.

D-5 Incinerators [40 CFR Sections 122.25(b)(5) and 264.340-264.351]

SWS Silicones Corporation does not manage an incinerator; therefore, Section D-5 is not applicable.

Date: 5/31/83
Revision No.: 0
E

SECTION E
GROUND WATER MONITORING SYSTEMS
[40 CFR Section 265.90-265.94]

The requirements for ground water monitoring are not applicable to a storage facility such as SWS Silicones Corporation, which stores containers and tanks (not intended for on-site disposal).

SECTION F
PROCEDURES TO PREVENT HAZARDS

F-1 Security [40 CFR Sections 122.25(a)(4) and 264.14]

F-1a Security Procedures and Equipment

In addition to the general security provisions of fencing, gates, and guards discussed below, several other features contribute to the safety and security of the facility.

Ample lighting is provided throughout the site, and an internal telephone system (with phones in most plant areas) is provided. The same telephone system is used for outside communications.

Employees are required to show identification badges when reporting to work, and visitors and contractors must obtain visitors' passes and must sign a log sheet (Figure 38).

F-1a(1) 24-hour Surveillance System

Security at SWS Silicones Corporation is maintained by a staff of trained security guards, who monitor entry and exit from the plant, and conduct plant tours within the plant premises.

SWS SILICONES CORPORATION

Revision No.: 0

F

Figure 38

Date _____

VISITOR'S LOG

[illegible]

The main truck entrance gate, at the east end of the north plant fence, is operated by remote control from the guard house. The guard house is occupied by one guard 24 hours a day, seven days a week, except for the periodic plant tours on off-day-shifts at which time the gate remains locked. Guards normally work an 8-hour shift.

F-1a(2) Barrier and Means to Control Entry

F-1a(2)(a) Barrier

The entire operational facility is enclosed on three sides within a 7-ft-high, chain-link fence topped by three strands of barbed wire. The fourth (south) side of the plant is protected by the River Raisin and swamp lands.

The fence has five gates: one main entrance gate operated by the guard service; one remotely-controlled truck entrance gate; one old railroad gate which is locked and not used; one dirt-road gate at the southeast corner, which is locked and very seldom used; and one dirt-road gate at the southwest corner, which is locked and used only for back-road travel from the plant to the Technical Center area.

F-1a(2)(b) Means to Control Entry

As discussed in Section F-1a(1), entry to the facility is controlled by a guard stationed at the main entrance gate. Employees are required to show identification cards (which have their pictures on them) when entering the plant. Visitors and

contractors must have visitors' passes and sign a log sheet.

F-1a(3) Warning Signs

Signs which are legible from a distance of 25 feet are posted at the fence gates and several other fence locations around the facility. Two signs are on fence posts at the south area of the plant. These signs are visible from all angles of approach, and bear the legend "Danger - Unauthorized Personnel Keep Out". There is a well enforced plant policy which forbids smoking in all areas, except office areas, lunch rooms, and the maintenance shop.

F-1b Waiver

SWS Silicones Corporation does not request a waiver of the requirements stated in Part 264.14(a)(1) and (2) regarding injury to intruder and violation by intruder.

F-2 Inspection Schedule [40 CFR Sections 122.25(a)(5), 264.15]

F-2a General Inspection Requirements

SWS Silicones Corporation conducts regular inspections of the facility for equipment malfunctions, structural deterioration, operator errors, and discharges that could cause or lead to the release of hazardous waste constituents and adversely affect the environment or threaten human health.

F-2a(1) Types of Problems

Table 7 presents the schedule for inspecting the container

TABLE 7

INSPECTION SCHEDULE

<u>Area/Equipment</u>	<u>Specific Item</u>	<u>Types of Problems</u>	<u>Frequency of Inspection</u>
Container Storage Area	Container placement and stacking	Aisle space, height of stacks	Weekly
	Sealing of containers	Open lids	Weekly
	Labeling of containers	Improper identification, date missing	Weekly
	Containers	Corrosion, leakage, structural defects	Weekly
	Pallets	Damaged	Weekly
	Base or foundation	Cracks, spalling, uneven settlement, erosion, wet spots	Weekly
	Dikes	Cracks, deterioration	Weekly
	Drain area, drain valve	Corrosion, deterioration, leaks	Daily
	Debris and refuse	Clogged drain, aesthetics	Weekly
	Ramp	Cracks, spalling, uneven settlement, erosion	Weekly
Tank Storage Area and Ancillary Equipment	Dike	Cracks, deterioration	Weekly
	Base or foundation	Cracks, spalling, uneven settlement, erosion, wet spots	Weekly
	Drain area	Leaks, deterioration	Daily
	Pipes	Leaks, corrosion or deterioration	Weekly
	Valves	Leaks, corrosion or deterioration	Weekly
	Pumps	Power, clogging	Weekly
	Level indicator	Sticking, malfunction, reading	Daily
	Surrounding Area	Leaks	Weekly
Tanks	Ladder	Damaged, structural stability	Weekly
	Foundation/Structural supports	Cracks, spalling, uneven settlement, erosion, wet spots	Weekly
	Pipe connections	Corrosion, cracks, distortion	Weekly
	Protective coating	Rust spots, blisters, film lifting	Weekly
	Tank shell	Corrosion, discoloration, cracks, buckles, bulges, leaks	Weekly
	Tank roof	Malfunction of seals, corrosion	Weekly
	Nozzles	Cracks, corrosion, leaks	Weekly
	Tank shell	Thickness	Yearly
	Internal inspection	Tank integrity, corrosion, cracks	Yearly
	Overflow Pipe	Leaks	Daily

Submitted
Date: 5/31/83
Revision No.: 01
7/28/83
F

storage area, the tank storage area and the tanks. Provided with each item is a list of problems normally encountered.

F-2a(2) Frequency of Inspection

Also provided in Table 7 is a recommended frequency of inspection for each item.

F-2b Specific Process Inspection Requirements

F-2b(1) Container Inspection

Inspections of the container storage area will be conducted per the inspection schedule provided in Table 7. Results of each inspection will be recorded on inspection log sheets entitled "Container Storage Area Weekly Inspection Log Sheet" (Table 8). Information requested on the log sheets includes the inspector's name and title, date, item of inspection, typical problems encountered, status of the item, observations, and the date and nature of repairs and remedial action.

The inspection sheets are kept in a three-ring binder at the Warehouse department. The inspector (a department supervisor) is required to check the status of each item and indicate whether its condition is acceptable or unacceptable. If the status of a particular item is unacceptable, appropriate and complete information is recorded, including date and nature of repairs and remedial action.

F-2b(2) Tank Inspection

CONTAINER STORAGE AREA WEEKLY INSPECTION LOG SHEET
(Hazardous Waste Storage Pad)

Inspector's name/title _____

Date of Inspection _____ (month/day/year)

Item	Types of problems	Status (✓)		Observations	Date and nature of repairs/remedial action
		Acceptable	Unacceptable		
Container placement and stacking	Aisle space, height of stacks				
Sealing of containers	Open lids				
Labeling of containers	Improper identification, date missing				
Containers	Corrosion, leakage structural defects				
Pallets	Damaged				
Base or foundation	Cracks, spalling, uneven settlement erosion, wet spots				
Dikes	Cracks, deterioration				
Drain area, drain valve	Corrosion, deterioration, leaks				
Debris and refuse	Clogged drain, aesthetics				
Ramp	Cracks, spalling, uneven settlement erosion				

Table 8
(page 1)

Date: 5/31/83
Revision No.: 0

WAREHOUSE DEPARTMENT

Hazardous Waste Storage Pad

SWS Silicones Corporation

RCRA Plan

Inspection Plan and Log

Inspect drum storage area weekly, looking for leaks and/or drum deterioration.

Any problems are to be reported immediately to management. An inspection log will be kept in the Warehouse area. This will include dates of inspections, inspector, problems found and remedial action taken. These records must be kept for at least 3 years.

The drain area (and the drain valve) should be checked daily.

Tank inspections will be conducted per the inspection schedule provided in Table 7. Results of each inspection will be recorded on inspection log sheets entitled "Tank Storage Area and Ancillary Equipment Weekly Inspection Log Sheet" (Table 9). Upon completion of the log sheets, they will be inserted in inspection log three-ring binders previously discussed in Section F-2b(1). The T-101 and T-105 inspection log binders are kept in the Hi Bay production area. The T-108 inspection log binder is kept in the RTV production area.

F-2b(3) Waste Pile Inspection

Not Applicable.

F-2c Remedial Action

If inspections reveal that non-emergency maintenance is needed, they will be completed as soon as possible to preclude further damage and reduce the need for emergency repairs. If a hazard is imminent or has already occurred at any time, remedial action will be taken immediately. SWS Silicones Corporation personnel will notify the appropriate authorities per the Contingency Plan (see Section G) and initiate remedial actions. In the event of an emergency involving the release of hazardous constituents to the environment, efforts will be directed towards containing the hazard, removing it, and subsequently decontaminating the affected area. Refer to Contingency Plan for further details.

TANK STORAGE AREA AND ANCILLARY EQUIPMENT WEEKLY INSPECTION LOG SHEET

T-101, T-105, T-108 (circle one)

Inspector's name/title _____

Date of inspection _____ (month/day/year)

Item	Types of problems	Status (✓)		Observations	Date and nature of repairs/remedial action
		Acceptable	Unacceptable		
Tank Storage Area & ancillary equipment:					
Dike	Cracks, deterioration				
Base or foundation	Cracks, spalling, uneven settlement, erosion, wet spots				
Drain area	Leaks, deterioration				
Pipes	Leaks, corrosion, or deterioration				
Valves	Leaks, corrosion, or deterioration				
Pumps	Power, clogging				
Level Indicator	Sticking, malfunction, reading				
Surrounding Area	Leaks				
Tanks:					
Ladder	Damaged, structural stability				
Foundation/Structural Supports	Cracks, spalling, uneven settlement, erosion, wet spots				
Pipe connections	Corrosion, cracks, distortion				
Protective coating	Rust spots, blisters, film lifting				
Tank shell	Corrosion, discoloration, cracks, buckles, bulges, leaks				
Tank Roof	Malfunction of seals, corrosion				
Nozzles	Cracks, corrosion, leaks				
Overflow Pipe	Leaks				

F-10

Submitted
Date: 5/31/83
Revision No.: 01
7/28/83
F
Table 9
(page 1)

HI BAY AREA

T-101

SWS Silicones Corporation

RCRA Plan

Inspection Plan and Log

A Department Supervisor will inspect around the T-101 tank once per week, and whenever loading or unloading the tank. Look for leaks around pump and tank; inspect equipment, and inspect dike for erosion or malfunction. Look for operator errors, spills, or any other environmental problem.

Any problems are to be reported immediately to management. An inspection log will be kept in the Operator area. This will include dates of inspections, inspector, problems found, and remedial action taken. These records must be kept for at least 3 years.

The drain area should be inspected daily. Internal inspection of the tank and the tank shell thickness should be checked annually.

F-11

Table 9
(page 2)

Date: 5/31/83
Revision No.: 0
F

HI BAY AREA

T-105

SWS Silicones Corporation

RCRA Plan

Inspection Plan and Log

A Department Supervisor will inspect around the T-105 tank once per week, and whenever loading or unloading the tank. Look for leaks around pump and tank; inspect equipment, and inspect dike for erosion or malfunction. Look for operator errors, spills, or any other environmental problem.

Any problems are to be reported immediately to management. An inspection log will be kept in the Operator area. This will include dates of inspections, inspector, problems found, and remedial action taken. These records must be kept for at least 3 years.

The drain area should be inspected daily. Internal inspection of the tank and the tank shell thickness should be checked annually.

F-12

Table 9
(page 3)

Date: 5/31/83
Revision No.: 0
F

RTV AREA

T-108

SWS Silicones Corporation

RCRA Plan

Inspection Plan and Log

A Department Supervisor will inspect around the T-108 tank once per week, and whenever loading or unloading the tank. Look for leaks around pump and tank; inspect equipment, and inspect dike for erosion or malfunction. Look for operator errors, spills, or any other environmental problem.

Any problems are to be reported immediately to management. An inspection log will be kept in the Operator area. This will include dates of inspections, inspector, problems found, and remedial action taken. These records must be kept for at least 3 years.

The drain area should be inspected daily. Internal inspection of the tank and the tank shell thickness should be checked annually.

Table 9
(page 4)

Date: 5/31/83
Revision No.: 0
F

F-2d Inspection Log

Inspection logs are maintained for each calendar year in three-ring binders at the appropriate departments. After an inspection, each log sheet is filed in the appropriate binder, which provides a case history of a particular item. The inspection log notebook for the container storage area is always kept at the Warehouse Supervisor's office. The inspection notebooks for T-101 and T-105 are always kept at the Hi Bay Supervisor's office. The inspection log notebook for T-108 is always kept at the RTV Supervisor's office. Table 8 and 9 are copies of the inspection log sheets. Also included with these tables are the instructions for inspection logs.

F-3 Waiver of Preparedness and Prevention Requirements [40 CFR Sections 122.25(a)(6), 264.32, and 264.35]

SWS Silicones Corporation does not wish to request a waiver of the preparedness and prevention requirements under 40 CFR Section 264 Subpart C. Requirements of this subpart are primarily addressed in Section D, Section F, and Section G of this application.

F-3a Equipment Requirements

Internal and external communications, emergency equipment, and fire control equipment are discussed in Section F and Section G.

F-3b Aisle Space Requirements

Aisle space requirements are addressed in Sections D-1a(2), F-5c,

and G.

F-4 Preventive Procedures, Structures, and Equipment
[40 CFR Section 122.25(a)(8)]

F-4a Loading Operations

Loading operations at the facility take place at the Warehouse loading area and at the tank storage loading area. (See Figure 14).

Waste generated in the processing area are collected into drums or tote containers, and transported by fork trucks to the appropriate storage area. Then, drummed wastes are transported by fork trucks to the appropriate loading area for outside shipment. Wastes from the tank storage area are piped directly to the loading area (Figure 14). During loading operations spills are unlikely; however, in the event of an accident, the material will be contained with standard industrial absorbants, absorbent pads, dirt or other means. Contaminated materials will be hauled to a permitted hazardous waste landfill and affected areas of the facility and equipment will be decontaminated.

There are no unloading operations at SWS Silicones Corporation.

F-4b Runoff

Runoff from the container storage area is collected in a 100-gallon sump at the northwest corner of the pad. After determining

that there has not been any spills or leaks, a manual valve (which is normally closed) is opened to let the runoff go to the chemical sewer treating system. If a spill or leak has been determined, or suspected, the liquid will be analyzed and then the material will be either sent to the chemical sewer or drummed for off-site disposal, depending on the analysis.

Runoff from the storage area of the three tanks would be contained in each of the three diked areas. After determining that there has not been any spills or leaks, manual valves (which are normally closed) are opened to let the runoff go to the SPCC (Spill Prevention, Control, and Countermeasures) pond. If a spill or leak has been determined, or suspected, the liquid will be analyzed and then, the material will be either sent to the SPCC pond or drummed for off-site disposal, depending on the analysis.

F-4c Water Supplies

Ground water contamination is prevented by eliminating the discharge of hazardous materials onto the unprotected ground. The container storage area, the tank storage area, and the warehouse loading area, are constructed of concrete bases, dikes, and drain valves to contain leaks, spills, and precipitation. The truck loading area is on a concrete pad which would catch small spills. Large spills would drain to a ditch which connects to the S.P.C.C. pond recovery system.

F-4d Equipment and Power Failure

There is no electrical equipment at the container storage area

and the tank storage area. Plant air failure would not affect the operation of hazardous waste practices since the whole operation is a batch process.

F-4e Personnel Protection Equipment

General information on the chemical components of the wastes in the containers and tanks is provided in Appendix A (General Information and Hazardous Characteristics of Wastes) and Figures 17-32. The data presents information on various chemicals regarding toxicity, fire, and explosion hazards. All plant personnel are equipped with safety shoes, hard hats, safety glasses, and respirators. Further details are presented in the Contingency Plan, Section G. Use of protective equipment is covered in the initial and annual Personnel Training Programs (see Section H), which satisfies the Occupational Safety and Health Standards of 29 CFR Part 1910 Subpart I - Personal Protective Equipment.

F-5 Prevention of Reaction of Ignitable, Reactive, and Incompatible Wastes [40 CFR Sections 122.25(a)(9), 122.25(b)(1)(iii), 122.25(b)(2)(vi), 122.25(b)(4)(i)(c)(4), 122.25(b)(4)(ii)(b)(1), 264.17, 264.21, 264.23, 264.176, 264.177, 264.198, 264.199, 264.256, 264.257]

F-5a Precautions to Prevent Ignition or Reaction of Ignitable or Reactive Wastes

The container storage area and the T-105 and T-108 tank storage areas are the only areas on the facility property where ignitable wastes are stored. No reactive wastes are handled or stored at the facility. The containers, as discussed in Section D-1a(1),

are compatible with the contained wastes; therefore the only source of ignition is external to the containers and tanks. The container storage and tank storage areas are remotely located from the operating areas of the plant. Sparkproof tools are used on all containers and tanks storing ignitable materials.

F-5b General Precautions for Handling Ignitable or Reactive Wastes or Accidentally Mixing Incompatible Wastes

General precautions for handling ignitable or reactive wastes were discussed above. SWS Silicones does not have any incompatible wastes.

F-5c Management of Ignitable or Reactive Wastes in Containers

Precautions taken in the container storage area to prevent accidental fire and explosion include proper storage of containers (e.g. stacking, aisle space, and labeling and sealing of containers), dikes, and sump areas.

Prior to storage, each container is sealed, labeled and dated. This prevents precipitation from entering the drum, and identifies the contents of the container and the date wastes were generated. Containers are stored on pallets to minimize contacts with precipitation, leaks, or spills, and they are never stacked more than three containers high. A minimum of four feet is maintained in the aisles to allow access for inspections. The container

storage area is located approximately 300 feet from the closest company property line (Figure 11), which is in compliance with the National Fire Code Standards for outdoor storage of containers holding ignitable wastes.

F-5d Management of Incompatible Wastes in Containers

SWS Silicones Corporation has no incompatible wastes. Thus, this Section F-5d is not applicable.

F-5e Management of Ignitable or Reactive Wastes in Tanks

Precautions taken in the tank storage area to prevent accidental fire and explosion include proper storage (e.g. nitrogen padding and grounding), and diking. The tank storage area is located 375 feet from the closest company property line (Figure 11), which is in compliance with the National Fire Code Standards for "Flammable and Combustible Liquids Codes" for vertical tanks with emergency relief venting. The facility provides protection for exposures by location within the jurisdiction of the Raisin Township Fire Department and by operation of its own trained personnel.

F-5f Management of Incompatible Wastes in Tanks

SWS Silicones Corporation has no incompatible wastes. Thus, this Section F-5f is not applicable.

F-5g Management of Ignitable or Reactive Wastes in Waste Piles

SWS Silicones Corporation does not have any waste piles. Therefore, this Section F-5g is not applicable.

F-5h Management of Incompatible Wastes in Waste Piles

SWS Silicones Corporation does not have any waste piles.

Therefore, this Section F-5h is not applicable.

F-5i Management of Ignitable Wastes in Tanks

The T-105 and T-108 tanks have a controlled nitrogen pad of about 0.5 PSIG. If the gaseous volume is increased by liquid removal or by temperature drop, nitrogen will automatically bleed into the tank to maintain the pad pressure. Alternately, when the gaseous volume is reduced, some nitrogen (and vapors) are automatically released from the tank, so as not to exceed the 0.5 PSIG. We have a Michigan Department of Natural Resources air permit for the vent releases.

The tanks are well grounded. The fill piping is a dip tube which discharges to the bottom of the tank, thus avoiding static electricity problems. The tanks are located in a remote area from the plant production processes.

SECTION G
CONTINGENCY PLAN

G-1 General Information [40 CFR 122.25(a)(7)]

This contingency plan is for SWS Silicones Corporation located at 3901 Sutton Road, Lenawee County, Adrian, Michigan 49221. SWS Silicones Corporation manufactures a variety of silicone products, including fluids, emulsions, sealants, antifoams and rubbers. Mr. Joseph Calamungi is the Director of Manufacturing, and he may be reached at (517) 263-5711 from 8:00 a.m. to 4:30 p.m. on weekdays, and at (517) 263-9300 at other times. Mr. Gordon Philbrook is the Environmental Control Coordinator, and he may be reached at (517) 263-5711 from 8:00 a.m. to 4:30 p.m. on weekdays, and at (517) 467-4329 at other times. Mr. James Barancin is the Production Manager and the primary emergency coordinator. He may be reached at (517) 263-5711 from 8:00 a.m. to 4:30 p.m. on weekdays, and at (517) 547-5462 at other times.

SWS Silicones Corporation stores hazardous wastes in two locations. A tank storage area with three tanks is used to store 1,1,1-trichloroethane waste solvent (25,000-gallon), Mixed Ignitable Solvent Waste (15,000-gallon), and Mineral Spirits Solvent Waste (15,000-gallon). A container storage area has an estimated maximum storage capacity of 300 drums. A general site plan and a full description of the facility is contained in Section B. A description of the wastes is contained in Section C.

G-2. Emergency Coordinators [40 CFR 122.25(a)(7), 264.52(d) and 264.55]

If an emergency situation develops at the facility, the discoverer should contact an emergency coordinator listed below. James Barancin, primary Emergency Coordinator, should be contacted first.

EMERGENCY COORDINATORS

Name	Title	Home address	Work phone no.	Home phone no.
James Barancin	Production Manager	13600 Rome Rd. Manitou Beach	517-263-5711 Ext. 366	517-547-5462
James Lorenzen	Engineering Manager	4451 Kiowa Ct. Adrian	517-263-5711 Ext. 215	517-265-8341

The primary emergency coordinator, and alternate, have complete authority to commit all resources of the company, in the event of an emergency. App. B-2 lists organizations that could possibly be contacted by the Emergency Coordinator in the event of an emergency.

G-3 Implementation of the Contingency Plan [40 CFR 122.25(a)(7) and 264.51(b)]

The decision to implement the contingency plan depends upon whether or not an imminent or actual incident could threaten human health or the environment. The contingency plan will be implemented in the following situations: fire, explosion or uncontrolled spills.

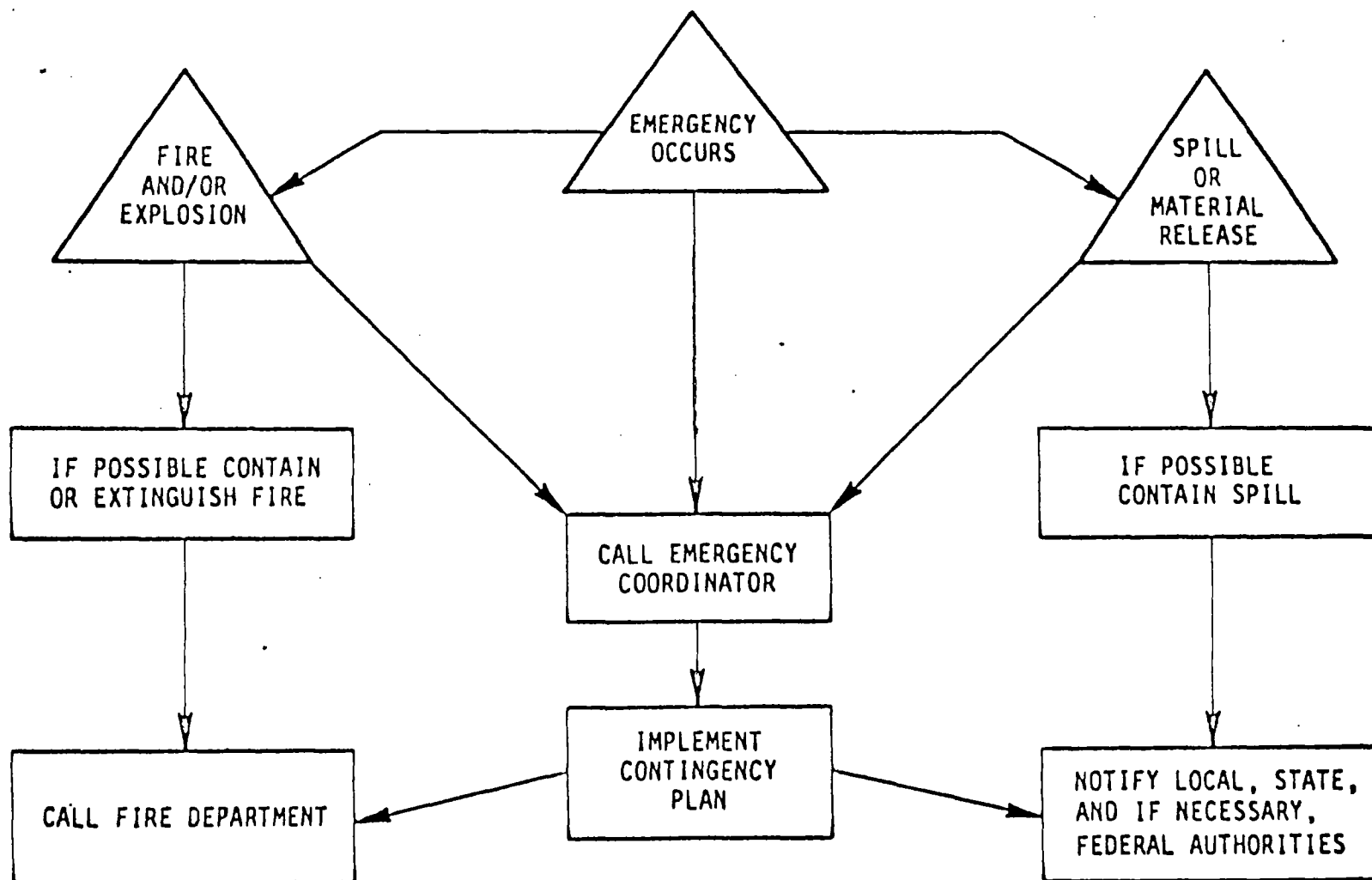
G-4 Emergency Response Procedures [40 CFR 122.25(a)(7), 264.52(a), 264.56, 264.171, 264.194(c), 264.255 and 264.258]

G-4a Notification

In the event of an emergency situation, the emergency coordinator will be notified first; subsequently, all appropriate facility personnel, federal, state or local agencies, and fire or police departments will also be notified. (See Figure 39 and Appendix B.)

G-4b Identification of Hazardous Wastes

The emergency coordinator will immediately identify the character, exact source, amount and area extent of release. The initial identification method will be to utilize visual analysis of the material and location



SWS SILICONES CORPORATION
Figure 39 Overview of Emergency Action Plan

of the release. All containers are labeled as to their contents and are stored in distinct locations on the pad. The three storage tanks are identified and labeled as to their contents. If for some reason the released material cannot be identified, samples will be taken for chemical analysis.

G-4c Assessment

The emergency coordinator and the Environmental Control Coordinator will assess possible hazards, both direct and indirect, to human health or the environment.

G-4d Control Procedures

Potential emergencies fall under two general classifications: (1) fire and/or explosions, and (2) spills or material release. Natural disasters, such as tornadoes are assumed to fall into one of these two classifications. An overview of the Emergency Action Plan is described in Figure 39.

Fire and/or Explosion

The procedures for this type of emergency are outlined in Appendix B, pages 1-17. Figure 11 shows the rally point for the manufacturing plant. Plant Classification of Fires and Plant Fire Protection System are described in Appendix B, pages 18-24. This includes sketch, SK-8-3 (Appendix B-24), which describes the underground fire lines and the locations of various post indicator valves, fire hydrants and hose houses.

Spills or Material Release

Emergency procedures due to spills or material release will be handled in the same manner as described in Appendix B, pages 1-17. When appropriate, the Federal and State Agencies, as listed in Appendix B, will be notified.

As called for in regulations developed under the Comprehensive Environmental Liability and Compensation Act of 1980 (Superfund), our practice is to report a spill of a pound or more of any hazardous material for which a reportable quantity has not been established and which is listed under the Solid Waste Disposal Act, Clean Air Act, Clean Water Act, or TSCA. We also follow the same practice for any substances not listed in the Acts noted above but which can be classified as a hazardous waste under RCRA. In addition, SWS Silicones Corporation is negotiating a Spills Control Contract with A.C.E.S. (Associated Chemical and Environmental Services Inc.). A copy of the latest agreement is in Appendix C.

Most waste spills and leaks are easily contained within the dikes and sumps provided in the tank area. Small spills occurring in a diked area are flushed with plenty of water, to the sump provided in that area. If necessary, a portable sump pump is used to pump the diluted waste material into 55-gallon drums. Procedures for handling large spills were discussed earlier in this section.

G-4e Prevention of Recurrence or Spread of Fires, Explosions or Releases
Actions to prevent the recurrence or spread of fires, explosions or releases include stopping processes and operations, collecting and containing released waste, and recovering or isolating containers. The onsite training manual addresses the specific actions to be taken in an emergency. In addition, if the facility stops operations in response to an emergency, the emergency coordinator will monitor valves, pipes, and other equipment for leaks, pressure build up, gas generation or ruptures.

G-4f Storage and Treatment of Released Material

Immediately after an emergency, the emergency coordinator and the Environmental Control Coordinator will make arrangements for off-site treatment, storage, or disposal of recovered waste, contaminated soil, surface water, or any other contaminated material. Refer to A.C.E.S. Contract, Appendix C.

G-4g Incompatible Wastes

SWS Silicones Corporation does not have any incompatible wastes. Therefore, this section G-4g does not apply.

G-4h Post-Emergency Equipment Maintenance

After an emergency event, all emergency equipment listed in section G5 will be cleaned so that it is fit for use or it will be replaced. Before operations are resumed an inspection of all safety equipment will be conducted as discussed in section F-2. The Regional Administrator, state, and local authorities will be notified that post-emergency equipment maintenance has been performed and operations will be resumed.

G-4i Container Spills and Leakage

Refer to section G-4d for a discussion of emergency response procedures for container spills and leakage. Please refer to SPCC (Spill Prevention Control and Countermeasure) Plan, Appendix D.

G-4j Tank Spills and Leakage

Refer to section G-4d for a discussion of tank spills and leakage emergency response procedures. Please refer to SPCC (Spill Prevention Control and Countermeasure) Plan, Appendix D.

G-4k Waste Piles

SWS Silicones Corporation does not have any waste piles. Therefore, this section G-4k is not applicable.

G-5 Emergency Equipment [40 CFR 122.25 (a)(7) and 264.52(e)]

The underground fire lines and the locations of various post indicator valves, fire hydrants and hose houses are shown in Sketch, SK-8-3, Appendix B-24. Also available for fire control are the portable fire extinguishers as shown in Appendix B, pages 25-29. Fire Axe Locations are in the following six locations (Refer to SK-8-3, App. B-24):

- Fire truck
- Hi Bay first floor
- Monomers Control Room
- HCR
- Guard House
- Polymers hallway

The emergency equipment kept in the five fire houses is listed on the operator's overall Fire Protection System Log sheet, App. B-30. First aid supplies are located at the First Aid station at the Guard House. In addition, there is a full-time (8:00 a.m. - 4:30 p.m., Monday - Friday) nurse with first aid supplies located at the Sutton House office building. Emergency eyewash fountains and showers are located throughout the plant. Protective clothing and equipment is provided to protect employees during normal and emergency operations. Hard hats, protective eyewear, and steel-toed boots or shoes are the minimum protective clothing required.

G-6 Coordination Agreements [40 CFR 122.25(a)(7), 264.52(c) and 264.37]

SWS Silicones Corporation has made the following agreements to assist in response to emergency situations.

1. An agreement is being made with a local disposal facility, A.C.E.S. to provide a tank truck on a 24-hour basis.
2. Copies of the contingency plan has been given to the local police and fire departments.

AMENDMENT

This Amendment, dated this 1st day of July 1983, amends the Trust Agreement entered into by SWS Silicones Corporation and Continental Illinois National Bank & Trust Co. dated October 4, 1982 as follows:

1. Schedule A is amended by deleting the amount "\$62,200" therein and substituting the amount "\$75,000" in its place and by deleting the date "February 18, 1982" therein and substituting the date "March 31, 1983" in its place.

2. Schedule B is amended by deleting the amount "\$62,200" therein and substituting the amount "\$75,000" in its place.

Except for the foregoing amendments, the Trust Agreement shall remain in full force and effect.

In witness whereof, the parties hereto have executed this Amendment as of the day and year above written.

CONTINENTAL ILLINOIS NATIONAL
BANK & TRUST COMPANY OF CHICAGO

SWS SILICONES CORPORATION

By: [Signature]
Title: SECOND VICE PRESIDENT

By: [Signature]
Title: Vice President & General Manager

READ AND APPROVED:

ENVIRONMENTAL PROTECTION AGENCY

By: [Signature]
Title: Executive Director

The following organizations have submitted letters outlining their capabilities to assist us in an emergency situation:

Raisin Township Fire Department (Page App. B-31)
Lenawee County Sheriff's Office (Page App. B-33)
Emma L. Bixby Hospital (Page App. B-34)
Herrick Memorial Hospital (Page App. B-36)
Dr. Charles Heffron, Company Physician (Page App. B-37)

G-7 Evacuation Plan [40 CFR 122.25(a)(7), 264.52(f)]

The evacuation plan is outlined in the following overview:

I. Evacuation routes and gathering points.

A. In the event of a plant evacuation, all personnel will muster in front of the guard house (north side off of the roadway).

1. The routes to follow for evacuation will follow the arrows on the attached map. (Figure 40). The route in general will be by the main roadway, which circles the plant. The direction to take will depend on the wind and the amount of smoke, if any, during the evacuation.

B. Departmental evacuations will muster in the following areas:

1. Hi Bay upon hearing the departmental alarm will meet in front of the Maintenance Shop.
2. Polymers and Process Control departments will meet at the south end of Fluids, outside.
3. The Warehouse and HCR departments, because of the close proximity, will respond to the same departmental alarm. These two departments will meet, off the roadway, at the north side of the guard house.
4. RTV will meet along the fence line directly west of the department.

C. In the event of a tornado "take cover" alert each department will take cover in the areas as designated in the tornado section.

II. Alarm Systems

A. Total plant evacuation will be initiated via the plant emergency phone system.

MANUFACTURING

Figure 40



1. In the event an emergency is out of control in a department, the plant will be evacuated.
 2. The evacuation alarm will be given over the emergency phone. Each department will then sound their evacuation horn and assemble for a head count at their designated location.
 3. The departments will then evacuate to the front gate in departmental groups.
- B. Departmental evacuations will be conducted by a continuous blast of the departmental air horns.
- C. Take cover for a tornado will be given by a continuous blast of the N₂ horns located on top of Hi Bay and in the piperack by the 4000 OH tanks.
- D. Announcement for fires will be given over the paging system along with activation of the emergency phone system.

III. Head counts will be handled by individual departments as outlined in their respective section.

IV. In the event of a plant wide evacuation, the Polymer Shift foreman will be responsible for closing the main gas valve on his way out. The senior polymer operator will be responsible in his absence.

G-8 Required Reports [40 CFR 122.25(a)(7), 264.56(d), 264.56(i) and 264.73(b)(4)]

As required by section 264.56(j), any emergency event (e.g., fire, explosion, etc.) that requires implementing the contingency plan will be reported in writing within 15 days to the EPA Regional Administrator. A reporting form for emergency events is shown in Figure 41.

In addition to these reporting requirements for state and Federal authorities, SWS Silicones Corporation also has internal reporting requirements. The

REPORTING FORM FOR EMERGENCY EVENTS

Name, address, and phone number of owner or operator

Name, address, and phone number of facility

Date, time, and type of incident (e.g., fire, explosion, etc.)

Name and quantity of material(s) involved

Extent of injuries (if any)

Assessment of actual or potential hazards to human health or the environment
(if applicable)

Estimated quantity and disposition of material recovered from the incident

Send to: _____
Valdas Adamkus
U.S. EPA, Region V
Regional Administrator (EPA)
230 South Dearborn, 13th Floor
Chicago, Illinois 60606
Karl J. Klepitsch, Jr., Chief
Waste Management Branch
U.S. EPA, Region V
230 South Dearborn
Chicago, Illinois 60604

Sample reporting form for emergency events.

following incidents require that an incident report be completed and returned to the Corporate safety director at the end of every month:

1. All Fires
2. Unusual gas or vapor releases
3. Chemical spills of more than 10 gallons (or smaller volumes if highly toxic materials are involved)
4. All injuries (serious injuries are reported within 24 hours)
5. All equipment damage due to malfunction or operating error (Property/Liability)
6. All "near misses" of the above variety that could have had serious consequences

Amendments to the Contingency Plan

The contingency plan will be reviewed and immediately amended, if necessary, whenever:

1. The facility permit is revised
2. The plan fails in an emergency
3. The facility changes in its design, construction, operation, maintenance, or other circumstances in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes in the response necessary in any emergency
4. The list of emergency coordinators change
5. The list of emergency equipment changes

Date: 5/31/83
Revision No.: 0
H

SECTION H
PERSONNEL TRAINING

H-1 Outline of Training Program [40 CFR Sections 122.25(a)(12)
and 264.16]

H-1a Job Titles and Duties

All production area operators and warehouse operators and supervisory personnel are directly involved with the handling of waste. Management responsibilities involving compliance with RCRA regulations but not involving actual handling of the wastes are split between the Environmental Control Coordinator, Production Manager, and the Director of Manufacturing. The Production Manager, James Barancin, is the Emergency Coordinator. Maintenance personnel work in the waste handling area, but they do not handle wastes directly. The duties, responsibilities, and qualifications of each position follow:

Position Title: Environmental Control Coordinator

Name of employee: Gordon C. Philbrook

Position Responsibilities and Duties:

- ° Training of plant personnel in the proper handling of raw materials, intermediates, finished products, and waste byproducts.
- ° Responsible for all air, water, and solid waste control systems on the site.
- ° Obtains all required permits and licenses or modifications of same from local, state, and Federal regulatory bodies.
- ° Resolves problems involving permits and licenses from local, state, and Federal regulatory agencies.
- ° Notifies proper authorities in emergency situations.
- ° Reports to Director of Manufacturing.
- ° Regularly inspects plant grounds and all facilities for status of air, water, and solid/hazardous waste emissions and controls.
- ° Consults with plant foremen on questions involving emergency action.
- ° Drafts and submits to Director of Manufacturing all required reports to EPA or the State.

Experience and Qualifications

- ° B.S. degree in Chemical, Civil, or Environmental Engineering. B.S. Degree in Chemistry also acceptable.
- ° 1-3 years experience in industrial or municipal pollution control management.
- ° Training and/or experience in hazardous waste management is desirable.

JOB DESCRIPTION

Date: 5/31/83
Revision No.: 0
H

Chemical Operator A & Boiler Utility

An employee must satisfy the following criteria before he may be promoted to the A classification.

1. An "A" operator must be able to initiate and complete the manufacture of product, given the operating instructions, with a minimum of supervision by the foreman.
2. The employee must have been trained and have demonstrated an understanding in all of the following procedures:
 - a. Warehousing - The employee must be able to fill out all the necessary papers to log materials into or out of storage. He must be familiar with all location codes and must know the proper procedures for storage (ie. stacking, spacing, etc.).
 - b. Process Logs - The employee must be fully indoctrinated in the method of filling out process log sheets and the reasons for the importance.
 - c. Materials Handling - The employee must be familiar with all hazardous materials used within the department, including MIOSHA label requirements, grounding procedures, inert atmosphere padding, and required personal protective equipment.
 - d. Waste Handling - The employee must be knowledgeable in the proper handling and storage of all wastes generated in his department. He must be familiar with all label requirements, proper packaging, and must be able to respond to a spill as defined in the plant's RCRA plan.

Date: 5/31/83
Revision No.: 0
H

e. The employee must be familiar with the use and care of all personal protective equipment.

f. The employee must be familiar with the emergency action plan and his roll in it.

Date: 5/31/83
Revision No.: 0
H

JOB DESCRIPTION

Chemical Operator B *****

An employee who is classified as a chemical operator "B" is in the process of training towards the "A" classification. Therefore, the job description of a "B" operator will expand correspondingly to the training he has received up to and including the "A" operator level.

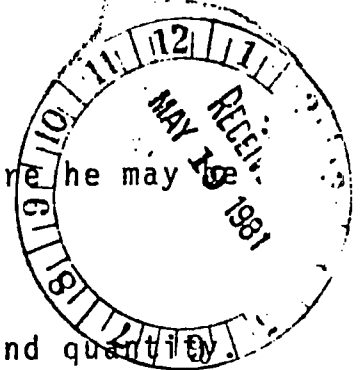
The jobs assigned a "B" operator will be defined by the foreman and the extent that he is on his own and totally responsible for his actions will depend on the degree of training and experience he has on the particular assignment.

JOB DESCRIPTION

Date: 5/31/83
Revision No: 0
H

Warehouseman A

An employee must satisfy the following criteria before he may be promoted to the "A" classification.



1. Receive all inbound material. Verify material and quantity. Prepare Count Sheet, Receiving Report, Receiving Log. Prepare log books for materials received for R & D, Maintenance and Sutton House.
2. Deliver all received goods to appropriate area assigned by Warehouse Floor Foreman.
3. Prepare orders for shipment, using shipping data form, locate material to ship, clean, label and load on trucks. (stencil, stack and palletize if necessary)
4. Carry out necessary housekeeping to maintain a clean and orderly area.
5. Follow directions to do whatever is necessary for a safe and efficient operation.
6. Prepare labels and stencils needed to prepare orders for shipment.
7. Knowledgeable in the proper handling and storage of all wastes, hazardous and non hazardous, shipped out in drums. Must be familiar with all labeling requirements, proper packaging, and must be able to respond to a spill as defined in the plant RCRA plan.

8. Must be familiar with the use and care of all personal protective equipment.
9. Familiar with the emergency action plan and his role in it.

JOB DESCRIPTION

Warehouseman B

An employee who is classified as a warehouseman "B" is in the process of training towards the "A" classification. Therefore, the job description of a "B" operator will expand correspondingly to the training he has received up to and including the "A" warehouseman level.

The jobs assigned a "B" warehouseman will be defined by the foreman and the extent that he is on his own and totally responsible for his actions will depend on the degree of training and experience he has on the particular assignment.

H-1b Training Content, Frequency, and Technique

The program developed at SWS Silicones Corporation for training employees in the safe handling of hazardous wastes is shown in Appendix E. Provisions are made for updating or revising the text as necessary to ensure compliance with the terms of the RCRA permit.

During the training program, employees are instructed on (1) the hazardous nature of chemicals and chemical wastes in general, (2) the purpose of RCRA and importance of maintaining compliance with RCRA regulations, (3) the hazardous nature of the wastes being stored in the facility, (4) proper handling and storage procedures for wastes, (5) emergency procedures and contingency plan.

The program is used as the basis or framework for training SWS Silicones Corporation personnel in the proper procedures, equipment, and systems to be used in managing hazardous wastes.

A brief description of each section of the training manual follows:

Introduction

This section of the program introduces SWS Silicones Corporation employees to the general classes and characteristics of chemicals and chemical wastes that can be hazardous to health and property. In this context, the terms toxicity, reactivity, corrosivity, and ignitability are defined. It is SWS Silicones Corporation's policy that each employee handling chemical substances (raw materials, finished products, by-products, and wastes) respect them and be aware of these potential hazards. The company's policy on the use of protective clothing and safety equipment to prevent accidental worker exposures and releases to the environment of hazardous chemicals and wastes is introduced.

The authority for regulating hazardous wastes under the Resource Conservation and Recovery Act (RCRA) also is discussed. The regulatory framework for classifying hazardous wastes, setting operational standards, and permitting procedures and achieving compliance is explored. The RCRA permit for SWS Silicones Corporation (once it is received) will also be studied to be sure that each employee is familiar with its terms.

Storage of Hazardous Wastes at SWS Silicones Corporation

This section focuses on the types of hazardous wastes that are handled and stored at SWS Silicones Corporation, normal/routine storage operations, and procedures for maintaining compliance with the RCRA permit (e.g., waste analysis, recordkeeping, inspections, and security).

Training for normal or routine operating conditions includes the following topics:

- Proper operation and maintenance of the storage facility.
- Scheduled inspections.
- Purpose and use of security and communications systems.
- Monitoring requirements for tracking and recording the operations of the facility.
- Recordkeeping requirements and procedures.

Emergency and Contingency Plans

The third section of the training program provides detailed instruction on steps to be taken in the event of an emergency such as a waste spill or fire, or damage from wind and storms. The emergency coordinator is clearly identified, as are emergency phone numbers and directions for locating and using onsite emergency equipment, alarms, and communications.

Contingency plans are also detailed. (See Appendix B)

This program is used in classroom training for both introductory training and annual review. All personnel involved with hazardous waste are required to complete this program in addition to on-the-job training. Also personnel receive a classroom review training session once a year. A record system for both initial and annual training is kept at the Personnel Department which will include;

- a. Job titles and name of employee
- b. Job descriptions, including skills, education, and duties
- c. Training done

This is supplemented with attendance by the Environmental Control Coordinator at seminars and conferences involving hazardous waste management.

H-1c Training Director

The personnel training program is directed by Mr. Gordon C. Philbrook, the plant Environmental Control Coordinator. Mr. Philbrook has been with SWS Silicones Corporation/Stauffer for 21 years. He received a B.S. degree in Chemical Engineering from the University of California in 1957. He has been trained in all aspects of Hazardous Waste Management and attended various seminars on this subject. Records of his previous and ongoing training are kept on file at the personnel office.

H-1d Relevance of Training to Job Position

Mr. Gordon C. Philbrook, the plant Environmental Control Coordinator, is responsible for teaching hazardous waste management procedures to all waste handling personnel.

Mr. James Barancin, Emergency Coordinator is responsible for the contingency plan implementation.

H-1e Training for Emergency Response

This training program is designed to ensure that personnel not only handle hazardous wastes in a safe manner but also properly respond to emergency situations. The program trains hazardous waste handling/management personnel to maintain compliance under both normal operating conditions and emergency conditions.

Training elements addressing nonroutine and emergency situations (unscheduled shutdowns and startups related to storms, fires, explosions, spills) include:

- ° Procedures for locating, using, inspecting, repairing, and replacing facility emergency and monitoring equipment
- ° Emergency communication procedures and alarm systems
- ° Response to fires and explosions
- ° Response to ground water contamination incidents and procedures for containing, controlling, and mitigating spills
- ° Shutdown of operations

- ° Procedures for evacuation of nearby areas

Trained plant personnel are on standby for initial response to all fires and other general plant emergencies. For more information contact SWS Silicones Corporation's safety officer, Thomas Degnan at 517-263-5711.

H-2 Implementation of Training Program [40 CFR Sections 122.25 (a)(12) and 264.16]

The director of the training program and all current waste-handling personnel have been fully trained at the time of this submittal. In the future, all new personnel will complete this training program within 6 months of assignment to the hazardous waste storage facility or within 6 months of their date of employment, whichever is later. No employee hired to work at this facility will work unsupervised prior to completion of the training program.

Employees are required to meet annually for review and update of this training program and to discuss and study the following subjects:

- 1) All hazardous wastes currently being handled at the facility, noting any changes in waste type, volume, source, characteristics, or location that have occurred during the past year.
- 2) The status of storage and operating conditions and procedures, noting any areas where there are problems or potential for problems. Employees

participate in developing effective solutions.

- 3) The requirements contained in the facility's RCRA permit, noting any changes that have occurred during the past year. Areas where maintenance of compliance is a problem are identified and discussed, and effective solutions are sought.
- 4) Incidents that have occurred in the past year that warranted use of contingency plans and/or emergency action. This review focuses on the cause of the incident and identification of steps to be taken to prevent or to ensure better handling of such events in the future.

The annual review will also utilize the facility's report to EPA, which is required every two years, as a working document for the review.

Records documenting the job title for each position, job descriptions, names of employees, and completed training programs (both introductory and review) will be kept onsite in the personnel office of SWS Silicones Corporation. These records will be kept until closure of the facility for current employees and for 3 years from the date of the individual employee's termination for former employees.

SECTION I

CLOSURE PLANS, POST-CLOSURE PLANS, AND FINANCIAL REQUIREMENTS

I-1 Closure Plans [40 CFR 122.25(a)(13), 264.111, 264.122, 264.113, 264.178, 264.197, and 264.258]

Refer to Appendix F.

I-1a Closure Performance Standard

This closure plan was designed to ensure that the facility will not require further maintenance and controls, minimizes or eliminates threats to human health and the environment, and avoids escape of hazardous waste, hazardous waste constituents, leachate, contaminated rainfall, or waste decomposition products to the ground or surface waters or to the atmosphere. The entire site will be regraded subsequent to closure to prevent erosion. The following sections discuss in detail efforts to be made at SWS Silicones Corporation to satisfy the closure performance standard.

I-1B Partial and Final Closure Activities

SWS Silicones Corporation expects to perform partial closure only when the storage tanks require replacing (in about 20 years), and when the container storage pad requires replacing (in about 40 years). Our procedures for final closure of the storage tanks and the container storage pad are described in further detail in sections I-1d(1) and I-1d(2). However, in the event that future circumstances or decisions force us to discontinue our hazardous waste tank storage or hazardous waste container storage activities, Sections I-1d(2) and I-1d(1) of the closure plan present

our procedures for final closure of each of the two storage areas. Any modifications to our existing facility equipment, structures, instruments or procedures related to the management of the two distinct portions of the facility will result in SWS Silicones Corporation updating and revising the closure plan accordingly.

At a maximum we expect the operation to consist of storage of 500 drums and 3 tanks during the life of the facility. Section I-1c of the closure plan describes the maximum inventory of wastes in storage at any given time during the operating life of SWS. SWS will secure permission to dispose of its wastes and enter into contractual agreements with off-site disposal companies.

I-1c Maximum Waste Inventory

The following table shows the maximum inventory of wastes in storage at any given time during the operating life of SWS for 500 containers, and 3 tanks.

Container Storage:		500 drums
Tanks:	T-101 (1,1,1-trichloroethane)	10,000 gallons
	T-105 (Ignitables)	9,000 gallons
	T-108 (Mineral Spirits)	9,000 gallons
		<u>28,000 gallons total</u>

I-1d Inventory Removal and Disposal or Decontamination of Equipment

Following waste removal, all piping to and from the three storage tanks will be decontaminated. The work will be supervised and performed using qualified SWS Silicones Corporation personnel or by an outside contractor. Personnel will be equipped with head protection, gloves and boots resistant to solvents. Both the wrists and ankles will be taped (electrical tape) to protect against upward and inward splash. Full face respirators with organic vapor filter cartridges that seal directly to the mask will be used when necessary.

During the decontaminating process, spills and wash waters will be placed in 55-gallon steel recovery drums. Strict supervision will include provision for no open flames, hot surfaces, or smoking to be present in and surrounding the work areas.

The 2-in lines which transport the waste in and out of the storage tanks will be cleaned. Positive displacement pumps, used to pump the wastes to tankers, and valves will be cleaned. All contaminated wash waters, generated as a result of the cleaning process, will be pumped by a positive displacement pump into 55-gallon drums or a tanker truck, and transported to an approved off-site facility.

Soils in the facility are not expected to be contaminated by the waste storage at SWS Silicones Corporation.

I-1d(1) Closure of Containers

All the drum containers in the SWS Silicones Corporation container storage area will first be removed for transport to an approved off-site facility. The drums will be moved utilizing a forklift.

The container storage area will then be decontaminated with a series of detergent washes and all waste water and residues generated will be collected in the sumps and, if laboratory analysis indicates that the waste is hazardous, the material will be pumped from the sump area into 55-gallon drums or tanker trucks and sent for off-site disposal to an approved facility. If laboratory analysis shows no evidence of contamination, waste water and residues in the holding sumps will be discharged to the chemical sewer system.

After thorough decontamination, the storage pad will be used for other uses than for storage of hazardous wastes.

An independent professional engineer will certify completion of the closure.

I-1d(2) Closure of Tanks

The 1,1,1-trichloroethane solvent (T-101) is pumped to a tanker and the waste is transported to a reclamation facility. Bulk Ignitable Solvents (T-105) and Bulk Mineral Spirits (T-108) are pumped to tanks and transported to either an incinerator facility or to a facility for fuel usage.

First, the waste outlet valves will be opened to allow waste residuals remaining on the bottom to drain from the tanks. The waste will be drained from the tanks into 55-gallon steel recovery drums located directly beneath the outlet. When filled, the drums will be sealed and sent off-site by truck to an approved disposer.

A steam cleaning unit will be rented to decontaminate the tanks. This process will generate residues in the form of contaminated wash waters. The waste outlet valves will again be opened and contaminated wash waters will be drained into 55-gallon steel recovery drums, sealed, and sent off-site by truck to an approved disposal facility. All the ancillary equipment associated with the tank will be similarly decontaminated. The equipment to be decontaminated includes pumps, piping inlets and piping exits. The pipes will be decontaminated by steam cleaning. Any visible spills or leakage detected during the decontamination process will immediately be cleaned up as discussed in Section I-1d.

The tanks, piping, and associated equipment will then be purged with air. After thorough decontamination, the tanks will be used for other uses than to store hazardous wastes.

An estimated \$65,910 (February, 1983 cost estimate) will be needed to close the SWS Silicones Corporation hazardous waste storage facilities. The closure costs are presented in Appendix F. Activities include removal of waste inventory, decontamination, disposal of wash solvents, and closure certification.

The assumptions made in the cost estimate are indicated in Appendix F. This closure cost estimate will be kept on file at the SWS facility. It will be revised whenever a change in the closure plan affects the cost of closure. It will be adjusted annually (from the date of its original development) to reflect changes in closure cost brought about by inflation. The Department of Commerce's Annual Implicit Price Deflator for Gross National Product will be used to make this adjustment.

I-5 Financial Assurance Mechanism for Closure [40 CFR Sections 122.25(a)(1), 264.143, and 264.151]

I-5c Closure Letter of Credit

SWS Silicones Corporation has established a closure Letter of Credit and Trust Agreement as the selected financial assurance mechanism at the Continental Illinois National Bank and Trust Company. An originally signed duplicate of the Letter of Credit and Trust Agreement was sent to the Regional Administrator by certified mail (Appendix G). A copy of the Letter of Credit and the Trust Agreement is attached as Appendix G. We are currently in the process of increasing the amount of the Letter of Credit and Trust Agreement to reflect the latest annual adjustment of the closure cost.

I-6 Post-Closure Cost Estimate [40 CFR Sections 122.25(a)(16) and 264.144]

Since all wastes will be disposed of offsite, there will be no post-closure activities or costs.

An independent professional engineer will certify completion of the closure.

I-1d(3) Closure of Waste Pile

SWS Silicones Corporation does not have any waste piles. Therefore, this section I-1d(3) is NOT applicable.

I-1e Schedule for Closure

Within 90 days after receipt of the final volume of hazardous wastes, final closure activities will be initiated. Completion of closure will be within 180 days of this occurrence. The Regional Administrator will be notified by SWS Silicones Corporation 180 days before beginning final closure. Final closure will be supervised and certified by an independent professional engineer, in addition to the owner or operator.

I-1f Extensions for Closure Time

SWS Silicones Corporation will not require an extension for closure time.

I-2 Post-closure Plans [40 CFR 122.25(a)(13)]

Post-closure care will not be needed for this facility because this is not a disposal facility.

I-3 Notice in Deed and Notice to Local Land Authority [40 CFR 122.25(a)(14)]

Because SWS Silicones Corporation is only a hazardous waste storage facility and not a disposal facility, notation is not necessary in the deed informing potential purchasers of restrictions associated with a disposal site, as required by 40 CFR 264.120.

I-4 Closure Cost Estimate [40 CFR 122.25(a)(15) and 264.142]

The closure cost information presented is submitted in accordance with the requirements of 40 CFR 122.25(a)(15), 264.142, and 264.143.

I-7 Financial Assurance Mechanism for Post-Closure [40 CFR Sections 122.25(a)(16) and 264.145]

Since all wastes will be disposed of offsite, there will be no post-closure activities or costs.

I-8 Liability Insurance [40 CFR Sections 122.25(a)(17) and 264.147]

I-8a Sudden Insurance [40 CFR Sections 264.147(a), 264.151(i), and 264.151]

SWS Silicones Corporation has obtained liability insurance for sudden and accidental occurrences in the amount of \$1 million per occurrence with an annual aggregate of \$2 million exclusive of legal defense costs. An originally signed certificate of liability insurance has been sent to the Regional Administrator by certified mail (Appendix G). The certificate is worded as specified in 40 CFR 264.151(g), (see Appendix G).

I-8b Nonsudden Insurance

SWS Silicones Corporation is a storage facility, therefore, no liability insurance is required for a nonsudden accidental occurrence.

I-8c Financial Test

SWS Silicones Corporation has an insurance policy for sudden and accidental occurrences, therefore, the financial test is not necessary.

I-8d Variance Procedures

SWS Silicones Corporation will not request the Regional Administrator for a reduction of liability amounts.

I-8e Adjustment Procedures

If the Regional Administrator increases the amounts of liability coverage or elects to improve nonsudden liability coverage requirements, SWS Silicones Corporation will immediately seek an adjustment to the insurance policy discussed above.

I-9 State Assumption of Responsibility [40 CFR 264.150]

SWS Silicones Corporation will not request state assumption of the legal or financial responsibilities.

SECTION J
OTHER FEDERAL LAWS

Information will be provided in accordance with the requirements of 40 CFR Part 122.25 (a)(20) at the request of the EPA Region V office. At this time, however, we believe this facility is in compliance with the following Federal laws; Wild and Scenic Rivers Act, National Historic Preservation Act of 1966, Endangered Species Act, Coastal Zone Management Act, and the Fish and Wildlife Coordination Act.

Date: 5/31/83
Revision No.: 0
K

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Date:

5/23/83

Signature:

Leonard B. Bruner

Leonard B. Bruner
Vice President and General Manager

APPENDIX A

GENERAL INFORMATION AND HAZARDOUS
CHARACTERISTICS OF WASTES

Excerpted from: Dangerous
Properties of Industrial
Materials, Fifth Edition, 1979
by N. Irving Sax

ACETONE. Syns: *dimethyl ketone, ketone propane, propanone*. Colorless liquid, fragrant mintlike odor. CH_3COCH_3 , mw: 58.08, mp: -94.6° bp: 56.48° , ulc = 90, flash p: 0°F (CC), lel = 2.6%, uel = 12.8%, d: 0.7972 @ 15° , autoign. temp. (color): 869°F , vap. press: 400 mm @ 39.5° , vap. d: 2.00.

Acute tox data: Oral LD_{50} (rat) = 9750 mg/kg; dermal LD_{50} (rabbit) = 20,000 mg/kg; ip LD_{50} (mouse) = 1297 mg/kg; inhal TC_{Lo} (human) = 500 ppm \rightarrow eye symptoms. [3]

THR = MOD via oral, ip and inhal routes; VERY LOW via dermal route. Acetone is narcotic in high conc. In industry, no injurious effects from its use have been reported, other than the occurrence of skin irr resulting from its de-fatting action, or headache from prolonged inhal. A food additive permitted in food for human consumption. A common air contaminant. [109]

Fire Hazard: Dangerous, when exposed to heat or flame or oxidizers. Can react violently with (CHCl_3 + a base), CrO , $\text{Cr}(\text{OCl})_2$, (nitric + acetic acid), (nitric + sulfuric acid), NOCl , nitrosyl perchlorate, nitryl perchlorate, permonosulfuric acid, potassium tert-butoxide, NaOBr , (sulfuric acid + potassium dichromate), (thio-diglycol + hydrogen peroxide), trichloromelamine. [19]

Explosion Hazard: Mod, when vapor is exposed to flame.

Disaster Hazard: Dangerous, due to fire and explosion hazard, can react vigorously with oxidizing materials.

To Fight Fire: CO_2 , dry chemical, alcohol foam.

CYCLOHEXANE. Syns: *hexahydrobenzene*, *hexamethylene*. Colorless mobile liquid, pungent odor. C_6H_{12} , mw: 84.16, mp: 6.5°, bp: 80.7°, fp: 4.6°, flash: p: -4°F, ulc: 90-95, lel = 1.3%, uel = 8.4%, d: 0.7791 @ 20°/4°, autoign. temp.: 473°F, vap. press: 100 mm @ 60.8°, vap. d: 2.90.

Acute tox data: Oral LD_{50} (mouse) = 1297 mg/kg. [3]

THR = MOD irr via inhal and oral routes. Irr to skin.

See also cycloparaffins.

Fire Hazard: Dangerous, when exposed to heat or flame; can react with oxidizing materials.

Spont Heating: No.

Explosion Hazard: Mod, in the form of vapor when exposed to flame. When mixed hot with liquid N_2O_4 an explosion resulted. [19]

To Fight Fire: Foam, CO_2 , dry chemical, spray, fog.

HEPTANE. Syns: *heptyl hydride*, *dipropyl methane*.
Colorless liquid. $\text{CH}_3(\text{CH}_2)_5\text{CH}_3$, mw: 100.20, bp: 98.52, $\text{lel} = 1.05\%$, $\text{uel} = 6.7\%$, $\text{fp} = -90.5^\circ$, flash p: 25°F (CC), d: 0.684 @ 20°/4°, autoign. temp.: 419°F, vap. press: 40 mm @ 22.3°, vap. d: 3.45.

Acute tox data: Inhal TC_{Lo} (human) = 1000 ppm, for 6 min → CNS symptoms. [3] Human inhal of 5000 ppm for 1/4 hr → marked vertigo, incoordination and hilarity. 5000 ppm for 7 min → marked vertigo, incoordination, hilarity. 5000 ppm for 4 min → marked vertigo, inability to walk straight, hilarity. 3500 ppm for 4 min → mod vertigo. 2000 ppm for 4 min → slight vertigo.

THR = MOD via inhal. Irr to the respiratory tract. Narcotic in HIGH conc. CNS irr.

Fire Hazard: Dangerous, when exposed to heat or flame.

Spont Heating: No.

Explosion Hazard: Mod, when exposed to heat or flame. Violent reaction with (P + Cl). [19]

Disaster Hazard: Dangerous, upon exposure to heat or flame; can react vigorously with oxidizing materials.

To Fight Fire: Foam, CO_2 , dry chemical.

ISOPROPYL ALCOHOL. Syns: *dimethyl carbinol*, *sec-propyl alcohol*, *isopropanol*. Clear colorless liquid, slight odor. $\text{CH}_3\text{CHOHCH}_3$, mw: 60.09, mp: -88.5° – -89.5° , bp: 80.3° , lcl = 2.0%, ucl = 12%, flz: p: 53°F , d: 0.7854 @ $20^\circ/4^\circ$, vap. d: 2.07, ulc: 70. Acute tox data: Dermal LD_{50} (rabbit) = 16,000 mg/kg; oral LD_{50} (rat) = 5840 mg/kg; ip LD_{50} (mouse) = 933 mg/kg; oral LD_{50} (dog) = 6000 mg/kg. [3]

THR = LOW via dermal and MOD via oral and ip routes. The single LD for a human adult = about 250 ml. [20] An irr to the eyes. [87] Acts as a local irr and in high conc as a narcotic. It can cause corneal burns and often eye damage. It has good warning properties because it causes a mild irr of the eyes, nose and throat, at conc levels of 400 ppm. It may induce a mild narcosis, the effects of which are usually transient, and it is somewhat less toxic than the normal isomer, but twice as volatile. It is not considered an important toxic hazard. There is some evidence that personnel can acquire a slight tolerance to this material, and single or repeated applications of it on the skin of rats, rabbits, dogs or human beings induced no untoward effects. It acts very much like ethanol in regard to absorption, metabolism and elimination but with a stronger narcotic action. Chronic injuries due to it have been detected in animals. Workers producing isopropyl alcohol show an excess of sinus cancers and laryngeal cancers. This may all or in part be due to the by-product, isopropyl oil. [81, 87] Humans have ingested up to 20 ml diluted with water and noticed only a sensation of heat and slight lowering of the blood pressure. There are, however, reports of serious illness from as little as 10 ml taken internally. A food additive permitted in food for human consumption. [109] A common air contaminant. Absorbed by skin.

Fire Hazard: Dangerous, when exposed to heat, flame or oxidizers.

Spont Heating: No.

Explosion Hazard: Mod, when exposed to heat or flame. Reacts violently with ($\text{H}_2 + \text{Pd}$), nitroform, oleum, COCl_2 , potassium-*tert*-butoxide. [19]

Disaster Hazard: Dangerous; keep away from heat and open flame; can react vigorously with oxidizing materials.

To Fight Fire: CO_2 , dry chemical, alcohol foam.

METHYL ALCOHOL. Syn: *methanol*. Clear, colorless, very mobile liquid. CH_3OH , mw: 32.04, bp: 64.8° , $\text{lel} = 6.7\%$, $\text{uel} = 36\%$, ulc : 70, fp : -97.8° , flash p: 52°F , d: 0.7913 @ $20^\circ/4^\circ$, autoign. temp.: 725°F , vap. press: 100 mm @ 21.2° , vap. d: 1.11.

Acute tox data: Oral LD_{50} (rat) = 13,000 mg/kg; scLD_{50} (mouse) = 9800 mg/kg; inhal LC_{50} (monkey) = 1000 ppm; dermal LD_{50} (rabbit) = 20,000 mg/kg. [3]

THR = LOW via oral, sc and dermal; MOD via inhal routes. Methyl alcohol possesses distinct narcotic properties. It is also a slight irr to the mu mem. Its main toxic effect is exerted upon the nervous system, particularly the optic nerves and possibly the retinae. The effect upon the eyes has been attributed to optic neuritis, which subsides but is followed by atrophy of the optic nerve. Once absorbed, methyl alcohol is only very slowly eliminated. Coma resulting from massive exposures may last as long as 2-4 days. In the body, the products formed by its oxidation are formaldehyde and formic acid, both of which are toxic. Because of the slowness with which it is eliminated, methyl alcohol should be regarded as a cumulative poison. Though single exposures to fumes may cause no harmful effect, daily exposure may result in the accumulation of sufficient methyl alcohol in the body to cause illness. [100]

Severe exposures may cause dizziness, unconsciousness, sighing respiration, cardiac depression, and eventually death. Where the exposure is less severe, the first symptoms may be blurring of vision, photophobia and conjunctivitis, followed by the development of definite eye lesions. There may be headache, gastrointestinal disturbances, dizziness and a feeling of intoxication. The visual symptoms may clear temporarily, only to recur later and progress to actual blindness. Irr of the mu mem of the throat and respiratory tract, peripheral neuritis, and occasionally, symptoms referable to other lesions of the nervous system have been reported. The skin may become dry and cracked due to the solvent action of methyl alcohol.

Methyl alcohol is a common air contaminant. It is used as a food additive permitted in foods for human consumption. [109]

Fire Hazard: Dangerous, when exposed to heat, flame or oxidizers.

Spont Heating: No.

Explosion Hazard: Mod, when exposed to flame. Violent reaction with CrO_3 , ($\text{I} + \text{ethanol} + \text{HgO}$), $\text{Pb}(\text{ClO}_4)_2$, HClO_4 , P_2O_5 , ($\text{KOH} + \text{CHCl}_3$), ($\text{NaOH} + \text{CHCl}_3$). [19]

Disaster Hazard: Dangerous, upon exposure to heat or flame; can react vigorously with oxidizing materials.

To Fight Fire: Alcohol foam.

NAPHTHA (PETROLEUM). See petroleum spirits.

NAPHTHA, SAFETY SOLVENT.

See stoddard solvent.

NAPHTHA, SOLVENT. See naphtha (coal-tar).

NAPHTHA, V.M.&P. Syns: *benzine*, 76° *naphtha*.

Volatile liquid. bp: 100°-140°, flash p: 20°F (CC),
d: 0.67-0.80, lel = 0.9% @ 212°F, uel = 6.0% @
212°F, autoign. temp.: 450°F.

THR = See petroleum spirits.

Fire Hazard: Dangerous, when exposed to heat or
flame.

Explosion Hazard: Mod, when exposed to flame.

Disaster Hazard: Dangerous, upon exposure to heat
or flame; can react vigorously with oxidizing
materials.

To Fight Fire: Foam, CO₂, dry chemical.

NAPHTHA, V.M.&P., 50° FLASH. Insol in water.

flash p: 50°F, autoign. temp.: 450°F, lel = 0.9%, uel =
6.7%, d: < 1, vap. d: 4.1, bp: 115°-143°. (flash p and
autoign. temp. will vary depending on the manufac-
turer.)

THR = See also petroleum spirits.

NAPHTHA, V.M.&P., HIGH FLASH. Insol in water.

flash p: 85°F, autoign. temp.: 450°F, lel = 1.0%, uel =
6.0%, d: < 1, vap. d: 4.3, bp: 138°-165°. (flash p
and autoign. temp. will vary depending on the manu-
facturer.)

THR = See also petroleum spirits.

1-OCTADECENE. Syns: *1-octadecyne, hexadecyl acetylene.* $\text{HC}\equiv\text{C}(\text{CH}_2)_{15}\text{CH}_3$, mw: 250.5, mp: 26° , bp: 180° @ 15 mm, d: 0.7884 @ $20^\circ/4^\circ$, flash p: $> 212^\circ\text{F}$, autoign. temp.: 482°F .

THR = U.

Fire Hazard: Slight, when exposed to heat or flame; can react with oxidizing materials.

To Fight Fire: Foam, water spray, fog, CO_2 .

to flame, can react vigorously with oxidizing materials.

To Fight Fire: CO_2 , dry chemical.

α -TRICHLOROETHANE. Syns: *1,1,1-trichloroethane, methyl chloroform.* Colorless liquid. CH_3CCl_3 , mw: 133.42, bp: 74.1° , fp: -32.5° , flash p: none, d: 1.3492 @ $20^\circ/4^\circ$, vap. press: 100 mm @ 20.0° .

Acute tox data: ip LD_{50} (mice) = 4700 mg/kg; oral LD_{50} (dog) = 750 mg/kg; oral LD_{50} (rabbit) = 5660 mg/kg; [3] 920 ppm for 70 min \rightarrow CNS effects in humans; inhal LC_{Lo} (man) = 27000 mg/ m^3 for 10 min. [3]

THR = MOD via ip and oral routes. Causes a pro-arrhythmic activity which sensitizes the heart to epinephrine-induced arrhythmias. This sometimes will cause a cardiac arrest particularly when this material is massively inhaled as in drug abuse for euphoria. [115] Reacts violently with acetone, N_2O_4 , O_2 , O_2 liquid, Na, NaOH, Na-K alloy. [19] Narcotic in HIGH conc.

Disaster Hazard: Dangerous; see chlorides.

p-XYLENE. Syn: *p*-xylol. Clear liquid. $C_6H_4(CH_3)_2$,
mw: 106.2, bp: 138.3°, lel = 1.1%, uel = 7.0%, fp:
13.2°, flash p: 83°F (TOC), d: 0.8611 @ 20°/4°, vap.
press: 10 mm @ 27.3°, vap. d: 3.66, autoign. temp.:
986°F.

Acute tox data: Oral LD₅₀ (rat) = 5000 mg/kg; ip
LD_{Lo} (rat) = 2000 mg/kg; sc LD_{Lo} (rat) = 5000
mg/kg; inhal LC_{Lo} (mice) = 3460 ppm. [3]

THR = MOD via oral, ip, sc and inhal routes. A
common air contaminant.

Fire Hazard: Dangerous, when exposed to heat or
flame; can react with oxidizing materials.

Explosion Hazard: Mod, in the form of vapor, when
exposed to heat or flame.

To Fight Fire: Foam, CO₂, dry chemical.

SWS SILICONES CORPORATION
RCRA PLAN

OUTSIDE EMERGENCY CALL NUMBERS

	<u>TELEPHONE NUMBER</u>	<u>SPEED CALL #</u>
ABLE EQUIPMENT RENTAL, Toledo, Ohio	70-419-865-5530	
ADT, Jackson, Michigan	9-1-782-1825	638
AMBULANCE - Sheriff's Department, Adrian, Michigan	9-263-4684	603
AMBULANCE - (also Fire Department)	9-263-2324	603
BAILEY METER COMPANY, Detroit, Michigan	9-1-313-356-1500	
CATALYTIC OF TOLEDO (Major Repairs) Toledo, Ohio	7-0-419-693-4441	
CONSUMERS POWER (Electrical and Gas), Adrian, Mich.	9-265-6145	607
FIRE DEPARTMENT (Raisin Township), Adrian, Michigan	9-263-2324	603
GUARD SERVICE, Adrian, Michigan(SE Security, Inc.)	9-263-2818	
HIGHWAY PATROL, Clinton, Michigan	9-263-0033	604
HOSPITAL - (Emma L. Bixby), Adrian, Michigan	9-263-0711	601
INDUSTRIAL ELECTRIC (Electrical Products) Adrian, MI	9-265-7108	
PHYSICIAN - Dr. Charles Heffron, Adrian, Michigan	9-265-2175	605
POISON CONTROL CENTER, Adrian, Michigan	9-263-2412	602
at night after 9:00 P.M. call Ann Arbor	9-1-313-764-5102	
or Toledo	7-0-419-382-3435	
WILLIAM FERREL, INC. (Repair Heat) Toledo, Ohio	7-0-419-531-4451	
PLANT EXECUTONE, Phone tie-in	181	
SHERIFF'S DEPARTMENT, Adrian, Michigan	9-263-4684	603
R & D EXECUTON, Phone tie-in	182	
POLYMERS AREA, FIRE ALARM HOT LINE PHONE	222	
TOLEDO WEATHER	7-0-419-936-1212	
NATIONAL RESPONSE CENTER	9-1-800-424-8802	
MICHIGAN POLLUTION EMERGENCY ALERT SYSTEM	9-1-373-7660	
EPA (Spill Emergency.)	9-1-800-292-4706	
MICHIGAN DNR (Spill Emergency)	9-1-313-379-9692	
HOSPITAL - (Herrick Memorial), Tecumseh, Michigan	9-423-2141	

SWS RCRA PLAN, Page 4
Revised 11/19/80
Revised 1/20/81
Revised 3/1/82

SWS SILICONES CORPORATION
RCRA PLAN

PLANT MANUFACTURING PERSONNEL PHONE NUMBERS

	<u>PLANT EXT.</u>	<u>HOME PHONE</u>
GUARD	201	
DIRECTOR OF MANUFACTURING J. Calamungi	376	9-263-9300
ENGINEERING MANAGER (Alternate Emergency J. W. Lorenzen Coordinator)	215	9-265-8341
PRODUCTION MANAGER (Emergency Coordinator) J. M. Barancin	366	9-1-547-5462
PLANT ENGINEER L. R. Andre	217	9-423-5758
ASSISTANT PLANT ENGINEER L. C. Ausderau	225	9-263-4402
MAINTENANCE SUPERINTENDENT J. M. O'Connor	268	9-1-313-453-0523
MAINTENANCE FOREMEN L. Flanagan	284	9-263-7998
K. E. Iffland	322	9-1-486-2656
POLYMERS SUPERINTENDENT J. C. Shull	271	9-423-6183
POLYMERS FOREMAN M. Mininger	270	9-265-7326
SEMI-WORKS (HI BAY) SUPERINTENDENT S. R. Dery	259	7-0-419-472-1810
SEMI-WORKS (HI BAY) FOREMAN B. E. Weekley	264	9-423-4848
RTV SUPERINTENDENT G. Zubke	237	9-263-4862
RTV FOREMAN J. E. Sanders	289	9-265-8557

	<u>PLANT EXT.</u>	<u>HOME PHONE</u>
HCR SUPERINTENDENT G. Neice	295	9-263-2034
HCR FOREMAN N. Prather	279	9-265-5482
WAREHOUSE SUPERINTENDENT V. Sharp	230	9-265-5713
SHIPPING SUPERVISOR P. E. Brosamer	319	9-467-2739
RESEARCH G. R. Wolf	325	9-1-456-7108
R & D MAINTENANCE L. L. McClain	330	9-423-5382
PUBLIC RELATIONS J. Calamungi	376	9-263-9300
L. B. Bruner	213	9-1-313-428-8605
G. C. Philbrook	361	9-467-4329
ENGINEERING DEPARTMENT W. F. Clark	223	9-1-349-2591
L. J. Zuzek	287	9-263-7976
ENVIRONMENTAL G. C. Philbrook	361	9-467-4329

Contingency Plan and Emergency Procedures

Definitions and Coverage

WHAT IS A DISASTER?

Any event which could cause serious injury, loss of life, serious loss of production and loss of facilities, or environmental losses, both inside the plant area as well as to adjoining property and communities.

WHAT IS THE DISASTER CONTROL PLAN?

Disaster control plan is an organized procedure to effectively cope with a disaster or major emergency.

The plan covers:

- a. Immediate action by personnel on duty.
- b. Activation of disaster plan.

1. FIRST ANNOUNCEMENT

- A. Anyone observing an emergency should sound the alert by broadcasting over the Executone system "NOW HEAR THIS! NOW HEAR THIS! (EMERGENCY) in the _____ area! Then repeat the whole message. Speak loudly and clearly. If you are near a phone you can dial 181 and announce directly on the Executone system, also. You should also call the Polymers foreman or the Process Control operator on their special phone, number 222 and report the emergency. The "181" system and the "222" system will be tested once per week.
- B. The Polymers foreman or the Process Control operator, upon learning of an emergency, either from the Executone or from the telephone, will activate the "RED" phone system and announce over that phone the emergency and location. NOTE: during nights or weekends, use of the "RED" phone system could be eliminated, since it's effectiveness would be low.

- C. The Polymers foreman will also send someone to blow the steam whistle; three short blasts, repeat 2 more times. This whistle will be tested once a week.
- D. Also, the air whistle in the Hibay area can be blown.
- E. If the emergency has not been announced over the Executone yet, the Polymers foreman or Process Control operator will now do so.

II. ACTION, PHASE I (Disaster NOT announced, yet)

- A. A Head Count will be started immediately in all plant areas (see Section on Head Count). As soon as an emergency team member checks in for Head Count, he should then report to the Emergency Team.
- B. The Emergency Team will go directly to the emergency scene, if in the plant. Otherwise, the team will go to the emergency vehicle. The emergency vehicle will wait up to 2 minutes, then proceed to the emergency scene. If the emergency is in the R & D area, only staff personnel will go in the emergency vehicle.
- C. On hearing the emergency alarm, either the HCR foreman or the RTV foreman, depending on the location of the emergency, will go to the guard house to direct traffic, and call outside help as directed. During nights or weekends, either the HCR/RTV foreman or the Polymers/Hi Bay foreman, will go to the guard house.
- D. The Process Control operator will go to the Guard House and open up the First Aid Station.

III. ACTION PHASE II

- A. Normally, the first supervisor on the emergency scene would be the Shift Foreman. Any other supervisor might also be first. If any supervisor, on the scene, decides that a disaster is occurring, he would then activate the disaster plan on his own cognition, as follows:

IV. SECOND ANNOUNCEMENT

A. The supervisor or his designee would broadcast over the Executone system: "NOW HEAR THIS! NOW HEAR THIS! THIS IS A DISASTER ALERT. There is an (EMERGENCY) in the _____ area." Then repeat the whole message. Speak loudly and clearly. If you are near a phone you can dial 181 and announce directly on the executone system, also. You should also call the Polymers foreman so he can announce the disaster both over the Executone and over the "RED" phone system. NOTE: During nights or weekends, use of the 222 "RED" phone line could be eliminated, since it's effectiveness would be low.

B. The shift foreman or the supervisor could also start the disaster announcement by calling the HCR or RTV foreman at the Guard House. This man would then call the Polymers foreman to have him announce the disaster on the 222 "RED" phone line, and would also use the 181 Executone system.

C. The DISASTER PLAN is now in effect:

V. ACTION, DISASTER PLAN

A. The foreman at the Guard House would then do the following:

- 1). Call Fire Department, 263-2324.
- 2). Call Sheriff's Department, for ambulance standby, 263-4684.
- 3). Call the disaster officers in order, until he locates one and tells him of the disaster emergency (these are listed on Page 5 of the general section). For Environmental problems, he will call the Emergency Coordinator.
- 4). Does any other calls as the shift foreman directs, such as
 - (1) The highway patrol for traffic control or evacuation or
 - (2) The hospital for standby, etc. (phone numbers on page 4).

B. All Plant areas will shut down as quickly as possible.

- C. All "outside" personnel (vendors, contractors, visitors, etc.) will immediately WALK to the Guard House. No vendor vehicles will be driven, unless at the direction of the disaster officer in charge. All trucks, which are unloading or loading, will shut off their valves and secure the operation. Contractors and vendors should leave their keys in their vehicles.
- D. The telephones and intercom are to be used for emergency messages only.
- E. The foreman or supervisor in charge will make every effort to fight the disaster utilizing the emergency team and any other personnel available, until the Emergency Coordinator or a disaster officer arrives on the scene.

VI, DUTIES OF DISASTER OFFICERS OR EMERGENCY COORDINATOR

As soon as he is notified, the disaster officer or his assistant will proceed as follows:

- 1). Make certain that all necessary emergency outside aid has been called. If not, make arrangements to have this done. This includes traffic control or evacuation of surrounding plant areas.
- 2). Have foreman at the Guard House proceed to call all personnel on the disaster committee, including all area superintendents and general foreman.
- 3). Proceed to plant site.
- 4). Make sure that evacuation of plant personnel and care for injured is underway.
- 5). Make sure that all steps are being taken to control the disaster and then establish a disaster control center.

- 6). Complete shutting down operations affected by the disaster.
- 7). Inspect the area to make a preliminary survey of the cause, nature, and extent of the disaster.
- 8). Notification of disaster will then be made by the Director of Manufacturing to the following:
Vice President and General Manager
- 9). Arrange to notify families of injured employees. This must be done before any leak to the media.
- 10). Communications with outside media will be made by the following personnel only:
Director of Manufacturing
Vice President and General Manager
- 11). Meet with all supervisors, who should now be at the plant, appraise the situation and make plans to make necessary repairs and resume operations.
- 12). Arrange for necessary information and instructions concerning raw materials, incoming materials, supplies, customers, and neighboring property owners.

VII. DUTIES OF ASSISTANT DISASTER OFFICERS

1. In the absence of the disaster officers, he will assume the duties of the disaster officer, up to step 7 in previous section VI.
2. When a disaster officer arrives, the assistant disaster officer will then assist the shift foreman in any way possible, so that the shift foreman can concentrate on the emergency team and fighting the disaster.

3. Establish the communications center, if the disaster officer hasn't yet done so.

VIII. RESCUE OPERATIONS OFFICER

1. As soon as he is notified, he will proceed to the plant site, check with the disaster officer.
2. Make necessary arrangements to call his assigned assistants, if they have not already been contacted.
3. Proceed to the disaster area and appraise the situation.
4. Check with the shift foreman on the status of the Head Count. If not completed, he will contact all areas and complete the count. He will also check with the guard for any movements of personnel.
5. Notify the maintenance department of your needs, that is additional personnel, equipment, etc.
6. Coordinate rescue operations with the Medical and Evacuation officer.

IX. MEDICAL AND EVACUATION OFFICER

1. As soon as he is notified, he will proceed to the plant site and check with the disaster officer and/or the rescue operations officer.
2. Make necessary arrangements to call his assigned assistant, if he has not already been contacted.
3. Arrange for ambulance and hospital service, if needed, and hasn't already been called.

4. Establish first aid center. The process control operator should have done this.
5. Evacuate plant personnel, and if necessary, carry out evacuation of neighboring people, with the help of the police.

X. TRAFFIC CONTROL AND SECURITY OFFICERS

1. As soon as they are notified, they will proceed to the plant site, and check with the disaster officer.
2. Make necessary arrangements to call his assigned assistant, if he has not already been contacted.
3. Work in conjunction with the police to block off roads when necessary.
4. Direct incoming outside assistance to the proper place.
5. Direct plant personnel to police the perimeter of the plant, especially to watch all other gates and observe any problems, such as trespassing of outsiders, etc.
6. Prevent local sightseers and unauthorized people (photographers, newspaper, radio, etc.) from entering the plant premises.
7. Establish security guards at all plant gates.

XI. COMMUNICATIONS AND MAINTENANCE OFFICER

1. As soon as he is notified, he will proceed to the plant site, and check with the disaster officer.
2. Make necessary arrangements to call his assigned assistants, if they have not already been contacted.

XI. COMMUNICATIONS AND MAINTENANCE OFFICER (CONTINUED)

3. Establish a communication center, if the disaster officer hasn't already done so. This will consist of the following:

- a. The warehouse van and the plant managers truck are the primary communication vehicles. Each is equipped with FM-2-way radios. One of these, usually the WH van, should be located in the area of the disaster, to provide a communication link with the communication center at Sutton House radio.

Upon his arrival, the Communications Officer should establish contact with the WH van and with the plant managers vehicle.

- b. In addition to the 2-way mobile radios, there is a hand held walkie-talkie in Sutton House, (on the Engineering and Production Manager's desk) which should be picked up by the Traffic Control officer for use at the Guard House.

4. He will also provide necessary maintenance personnel and equipment as required.

XII. AREA GENERAL FOREMEN

1. As soon as they are notified, they will proceed to the plant site, and obtain a quick briefing from one of the disaster officers.
2. They will immediately go to their own areas and proceed as follows:
3. Make sure a Head Count has been made and reported. If not, do so.

XII. AREA GENERAL FOREMEN (CONTINUED)

4. Find out the extent of the disaster as it affects their area, and take necessary action.
5. Assure that their area is secure, that an orderly and safe shutdown is underway or completed.
6. Then, and only then, should they get involved at the disaster site for assistance.

XIII. HEAD COUNT

A. During Daytime on Weekdays

In each plant area the general foreman will both do a Head Count and check out his area. He will remain in his area until he is satisfied of the above 2 conditions. In this respect, he must always be aware of which of his men are on the emergency team and have left for their duties.

Each general foreman must develop his own system for getting a quick and accurate Head Count of his area.

The general foreman will then notify the rescue operations officer of his area status, both as to Head Count and as to condition. He can do this by:

1. Sending a "runner".
2. Contacting the communications center, if one has been established.
3. He will notify the shift foreman, in the absence of the rescue operations officer,

XIII. HEAD COUNT (CONTINUED)

B. DURING NIGHTS OR WEEKENDS

During shifts, the senior operator in each area must do the Head Count. Here again a procedure for doing this quickly and accurately must be established by the general foreman. The senior operator will report his results to the shift foreman.

XIV. ENDING

When the emergency or disaster is over, this should be announced over the executone system(s) and "RED" phone when appropriate.

XV. DISASTER PLAN

Refer to plant Disaster Plan for more information, sketches, etc.

EMERGENCY COORDINATOR

Required Emergency Coordinator

- A. On the facility premises or available to respond to the facility in a short time.
- B. Responsible for coordinating all emergency response measures with authority to commit the resources needed to carry out the contingency plan.
- C. Must be thoroughly familiar with:
 - 1. The facility's contingency plan
 - 2. Operations and activities
 - 3. Location and characteristics of waste
 - 4. Location of all records
 - 5. Facility layout.

Additional Responsibilities of the Emergency Coordinator (and the owner/operator)

- A. Whenever there is an imminent or actual emergency situation he must immediately:
 - 1. Activate internal facility alarms on communication systems to notify all facility personnel
 - 2. Notify appropriate State or local agencies if their help is needed.
- B. Whenever there is a release, fire or explosion he must immediately:
 - 1. Identify the character, exact source, amount, and real extent of any released materials using observation, facility records or manifests, and, if necessary, by chemical analysis.
- C. Concurrently he must:
 - 1. Assess possible hazards (ex. the effects of any toxic, irritating, or asphyxiating gases), and the effects of surface run-offs of wastes (including water or chemical agents used to fight fire).

- D. Whenever the release could threaten human health or the environment outside the facility he must:
1. Immediately notify appropriate local authorities if he believes that evacuation of local areas may be necessary.
 2. Immediately notify the on-scene coordinator for that area (in the applicable regional contingency plan) or the National Response Center (800-424-8802) and provide a report detailing:
 - a. Name and telephone number of reporter
 - b. Name and address of facility
 - c.. Time and type of incident (e.g. release, fire)
 - d. Name and quantity of materials involved, to the extent known.
 - e. The extent of injuries, if any, and
 - f. The possible hazards to human health, or the environment, outside the facility.
- E. Take measures such as stopping processes and operations, collecting and containing released waste, and removing or isolating containers, necessary to stop the occurrence, re-occurrence, or spread of fires, explosions or releases.
- F. If the facility stops operations, monitor for leaks, pressure buildups, gas generation, or ruptures in valves, pipes, or other equipment (as appropriate).
- G. Immediately after an emergency, treat or store recovered waste, contaminated soil or surface water, or other material. Such recovered material may have to be handled as a hazardous waste.
- H. Immediately after an emergency, do not allow incompatible waste to be treated, stored, or disposed with released materials until cleanup procedures are completed; and clean emergency equipment before operations are resumed.
- I. Before operations are resumed, notify the Regional Administrator and State and local authorities that Subsection H above has been complied with.

- J. The owner or operator must note in the operating record the time, date, and details of any incident which implement the contingency plan; and within 15 days after the incident, submit a written report to the Regional Administrator detailing:
1. Name, address, and telephone number of owner or operator.
 2. Name, address, and telephone number of the facility
 3. Date, time, and type of incident (e.g. fire, explosion)
 4. Name, and quantity of material(s) involved
 5. The extent of injuries, if any
 6. As assessment of actual or potential hazards to human health or the environment, where this is applicable, and
 7. Estimated quantity and disposition of recovered material that resulted from the incident.

CLASSIFICATION OF FIRES AND RATING OF PORTABLE FIRE EXTINGUISHERS

The basic types of fires are Classes A,B,C, and D as defined in the following paragraphs.

CLASS A fires are fires in ordinary combustible materials, such as wood, cloth, paper, rubber, and many plastics.

CLASS B fires are fires in flammable liquids, gases, and greases.

CLASS C fires are fires which involve energized electrical equipment where the electrical nonconductivity of the extinguishing media is of importance. (When electrical equipment is deenergized, extinguishers for Class A or B fires may be used safely.).

CLASS D fires are fires in combustible metals, such as magnesium, titanium, zirconium, sodium, and potassium.

Certain combustible metals and reactive chemicals require special extinguishing agents or techniques. If there is doubt, applicable NFPA standards should be consulted or reference made to NFPA No. 49.

Portable fire extinguishers are classified for use on certain classes of fires and rated for relative extinguishing effectiveness at a temperature of plus 70 degrees Fahrenheit by nationally recognized testing laboratories. This is based upon the preceding classification of fires and the fire-extinguishment potentials as determined by fire tests.

The classification consists of a LETTER which indicates the Class of fire on which an extinguisher has been found to be effective, preceded by a rating NUMERAL (Class A and B only) which indicates the relative extinguishing effectiveness.

For extinguishers rated on Class B fires, the rating NUMERAL is also a proportional indication of the square-foot area of flammable liquid fire (of appreciable depth) which a trained operator can extinguish. (NOTE: appreciable depth is defined as a depth of liquid greater than 1/8 inch.).

For extinguishers classified for use on Class C fires, no NUMERAL is used since Class C fires are essentially either Class A or B fires involving energized electrical wiring and equipment. The size of the different suitable extinguishers installed should be commensurate with the size and extent of the Class A and/or B components of the electrical hazard or containing equipment being protected.

For extinguishers classified for use on Class D fires, no NUMERAL is used. The relative effectiveness of these extinguishers for use on specific combustible metal fires is detailed on the extinguisher nameplate.

Extinguishers which are effective on more than one Class of fire have multiple LETTER and NUMERAL-LETTER classifications and ratings.

The classification and rating is found on the label of Underwriters' Laboratories, Inc. and Underwriters' Laboratories of Canada, which is affixed to the extinguisher.

EXAMPLE: An extinguisher is rated and classified 4-A:16 B:C. This indicates the following:

- 1). It should extinguish approximately twice as much Class A fire as a 2-A (2-1/2 gallon water) extinguisher.
- 2). It should extinguish approximately sixteen times as much Class B fire as a 1-B extinguisher.
- 3). It should extinguish approximately 16 square feet of flammable liquid fire of appreciable depth when used by an operator trained in the use of the specific extinguisher.
- 4). It is suitable for use on energized electrical equipment.

PLANT FIRE PROTECTION SYSTEM

Training Aids: SWS Drawing SK #8 -3, Page 32A

INTRODUCTION

Our plant has a well designed fire protection system, and if properly used should extinguish or control any fire that occurs. We have a water supply, fire pumps, underground fire loop, sprinkler systems, fire trucks, and associated equipment.

WATER SUPPLY AND PUMPS

We have two (2) cooling water ponds, each of which contain approximately 750,000 gallons of water. Of this amount, 500,000 gallons are reserved for the two (2) fire pumps. This is governed by the fact that the fire pumps are longer than the cooling water pumps. When water is being drawn from these ponds to fight a fire, water is pumped into the ponds from the river water intake pump, which is rated at 500 gpm. Water may also be added through a four (4) inch well water makeup line. The river water makeup line will open automatically as the pond level drops, but the well water makeup line must be opened manually.

We have two (2) vertical turbine fire pumps located in our pump house. Each pump is capable of 2,000 gpm at 175 psi pressure. These pumps are set to come on automatically if the pressure drops in the fire mains. The electric pump comes on when the pressure drops to 145 psi, and the diesel comes on at 125 psi. We have an electric pump and a diesel driven pump. In the event of a fire during power outage, the diesel pump must be run.

These pumps should start automatically in the event of a pressure drop in the fire main, but if the pressure switches should malfunction, either pump can be started manually. How to start and shut down these pumps will be pointed out on our tour.

SWS RCRA Plan, page 108b

Revised 1/20/81

UNDERGROUND FIRE MAINS: Refer to SWS SK-8-3, entitled "underground fire line", see page 32A

Start in the lower ^{RIGHT} ~~left~~ hand corner, where it says "from pumping station". This shows that there are parallel 12" underground lines coming from the pump house and tying into our 10" underground at PIV7 and PIV8. In the event of a rupture in one of these 12" lines, it can be isolated and pressure maintained through the other line. The lower 12" line on the sketch can be isolated by closing PIV7 & PIV8 and the northern most 12" valve in the pump house. The upper 12" line on sketch can be isolated by closing PIV6 & PIV7 and the southern most 12" gate valve in the pump house.

It should be pointed out here that anytime a post indicator valve is closed, the number of turns needed to close it should be counted and recorded. It should take the same number of turns to open this valve (usually 30 to 32 turns). Anytime a post indicator valve is closed, the Safety and Loss Department, in Westport, must be notified. They will want to know why it was closed and the estimated time that it will be closed.

FIRE HYDRANTS: Our fire hydrants are equipped with 2 - 2-1/2" nozzles. Most of these have one side reduced to 1-1/2" and have a 1-1/2" hose attached. It is important when using a hydrant that it is opened all the way. All hydrants have weep holes located underground. There are two (2) leather seals that cover these when the hydrant is not opened fully.

If the hydrant is not opened fully, water will flow out of these holes. Upon closing the hydrant, disconnect one side and place the palm of your hand over the opening. If the hydrant is draining properly, you should feel a vacuum forming.

SPRINKLER SYSTEMS: The following areas in our plant are protected by sprinkler systems: HI Bay, RTV, Reactor structure, Silicon warehouse, northeast corner of maintenance, Polymers, HCR, the new warehouse, the Polymers-HI Bay warehouse, the HCR warehouse, and the RTV warehouse.

Most of these areas, with the exception of the Monomers reactor structure, have temperature sensitive heads. This means that the sprinkler heads have a temperature rating (usually 180°F) at which point the solder melts and they spray water. In case of a fire only the sprinkler heads which get hot will go off. In the reactor structure, we have a deluge system. When a heat sensitive head is heated up, all of the heads will spray water, blanketing the structure with water.

Where a plant is protected by a well designed and maintained system of automatic sprinklers, the fire brigades work is simplified in a majority of fires. In all cases, where sprinklers operate on a fire, they should not be shut down until the supervisor in charge of the emergency brigade has determined that the fire is completely under control. Premature closing of the sprinkler supply valves has been a leading cause of major fire losses in industry.

All of our sprinkler systems have a post indicator valve by which the various systems may be shut off. After a sprinkler system has been tripped and the fire is out, this valve may be shut off to stop the water flow while replacing sprinkler heads. THIS VALVE SHOULD ONLY BE SHUT UNDER THE DIRECTION OF THE FIRE MARSHAL.

PLANT FIRE TRUCK: We have a 1968 Chevy pickup equipped as an emergency vehicle. Some of the equipment on this vehicle consists of: two (2) Scott Air-Pacs; eight (8) gas masks; one (1) 300 pound dry chemical extinguisher; five (5) 30 pound extinguishers; an oxygen bottle and mask; 2-1/2" fire hose; and a monitor nozzle with 150' of hose attached. There

PLANT FIRE TRUCK (CONTINUED)

Is also a radio so that communications can be set up with walkie-talkies and the Sutton House radio system.

To use the 300 pound dry chemical extinguisher that is on the truck only one valve needs to be opened, this is the valve on the nitrogen cylinder. As soon as this valve is opened, it pressurizes the dry chemical and this unit is ready for use.

FIRE EXTINGUISHERS

NUMBER	LOCATION	SIZE
1	Guard House	SP-A-30
2	Guard House Gas Pump	SP-A-20
3		
4	DSA Row 18	20A
5	DSA Door 2	20A
6	DSA Row 1	20A
7		
8		
9		
10		
11		
12	Middle; C-21	30A
13	Middle; C-10	30A
14	Middle; T-1	SPA 30
15	Middle; E-17	SPA 30
16	Middle; E-9	30
17	Middle; Small Pkg. Cage	30
18	Middle; S-16	20A
19		
20		
21		
22		
23		
24	RTV East Overhead Door	20A
25	RTV East next to Men's Room	30
26	RTV Solvent Room	20
27	RTV Lab	20
28	RTV West Wall	30
29	RTV Red Room West	30
30	RTV Red Room East	30
31	RTV New Bldg. East	20
32	RTV New Bldg. West	20
33	RTV New Bldg. South Wall	
34	RTV New Exp. West	20
35	RTV New Exp. East	20
36	RTV Warehouse; North	30
37	RTV Back Warehouse; South	30
38		
39		
40		
41		
42		
43	AR Building; North	20
44		
45		
46	Label Room	I
47	Outside Label Room	20
48	HCR; North	20
49	HCR Office	30
50	HCR R-601	30
51	HCR M-603; North	20

CO₂

SWS Silicones Corporation

SWS RCRA Plan, page 109a

Revised 1/20/81

FIRE EXTINGUISHERS

NUMBER	LOCATION	SIZE
55	HCR M-704; West	Bldg. 700 20
56	HCR Ext - 704	Bldg. 700 20
57	HCR ML-704	Bldg. 700 20
58	HCR ML-702	Bldg. 700 20
59	HCR South Wall ML-703	Bldg. 700 30
60	HCR Hisil Room	Bldg. 700 20
61	HCR Chiller Room	Bldg. 700 20
62	HCR Y-400 Next to D ₃ Tank	30
63	HCR; 2nd Deck Y-400	20
64	HCR; 2nd Deck Y-400 Railing	
65	HCR; 3rd Deck Y-400 Railing	30
66	HCR Bldg. 701 North	Bldg. 701 30
67	HCR; South Warehouse	Bldg. 701 20
68	HCR; South Warehouse	Bldg. 702 30
69		
70		
71		
72		
73		
74	Solvent Storage; North	Bldg. 44 30
75	Oil & Grease	Bldg. 44 20
76		
77		
78	Drum Bldg. Polymers	Bldg. 801 20
79	Poly T-422; Ground Tank Farm	20
80	Poly T-425; Ground Tank Farm	20
81	Poly T-509 C; Ground	30
82	Poly T-814; Ground	20
83	Poly T-815; Ground	500
84	Poly T-815; 2nd Level	30
85	Poly T-512 B; 2nd Level	20
86	Poly T-831; 2nd Level	20
87		
88		
89	Poly Office Hallway	Bldg. 800 30
90	Poly Electrical Breaker Room	
91		
92	Poly Fluids R-803; Ground	Bldg. 800 20
93	Poly Fluids R-805; Ground	Bldg. 800 30
94	Poly Fluids T-862; Ground	Bldg. 800 20
95	Poly Fluids Stairway; 2nd Level	Bldg. 800 20
96	Poly Fluids West Door; 2nd Level	Bldg. 800 30
97	Poly Fluids T-861; 2nd Level	Bldg. 800 30
98	Poly Fluids T-862; 2nd Level	Bldg. 800 30
99	Poly Fluids T-905; 2nd Level	30
100	Poly Fluids Roof; 1st Level	Bldg. 800 30
101	Poly Fluids C-803; 2nd Level	Bldg. 800 30
102	Poly Fluids C-803; 3rd Level	Bldg. 800 30
103	Poly Fluids C-803; Top Level	Bldg. 800 30
104		
105		
106	Process Control Lab; North Door	Bldg. 800 20

SWS Silicones Corporation

SWS RCRA Plan, page 109b

Revised 1/20/81

FIRE EXTINGUISHERS

NUMBER	LOCATION	SIZE
107	Process Control Lab; South Hood Bldg. 800	10
108	Process Control Lab; Cyclics Door Bldg. 800	20
109	Process Control Lab; Office Door Bldg. 800	10
110		
111		
112	Poly Cyclics; Ground South C-502 & C-503	20
113	Poly Cyclics; 2nd Level C-502 & C-503	20
114	Poly Cyclics; 2nd Level C-502 & C-503	10
115	Poly Cyclics; 3rd Level C-502 & C-503	20
117	Poly Cyclics; Top Level C-502 & C-503	10
118	Poly Cyclics; Top Level C-502 & C-503	10
119	Poly Cyclics; Top Level C-505 & C-506	20
120	Poly Cyclics; 6th Level C-505 & C-506	20
121	Poly Cyclics; 5th Level C-505 & C-506	20
122	Poly Cyclics; 4th Level C-505 & C-506	20
124	Poly Cyclics; 2nd Level C-505 & C-506	20
125	Poly Cyclics; Ground Wall West Bldg. 800	30
126	Poly Cyclics; Ground Wall East Bldg. 800	30
127	Poly Cyclics; East Door 2nd Level Bldg. 800	30
128	Poly Cyclics; West Door 2nd Level Bldg. 800	30
129	Poly Cyclics; T-406 2nd Level Bldg. 800	20
130	Poly Cyclics; T-406 3rd Level Bldg. 800	20
131	Poly Cyclics; T-406 4th Level Bldg. 800	10
132	Poly Cyclics; Roof T-503 ovhd Bldg. 800	10
133	Poly Cyclics; Roof T-516 ovhd Bldg. 800	10
134	Fluids T-808; South of Poly Cyclics Bldg. 800	20
135	M-601 Jet Platform Bldg. 700	20
136		
137		
138		
139		
140	Boiler House Southwest Corner Bldg. 20	150
141	Boiler House; West Wall Bldg. 20	20
143	Boiler House; Northeast Corner Bldg. 20	10
144	Boiler House; Southeast Corner Bldg. 20	20
145	FU-102	30
146	FU-101	20
147		
148		
149		
150	C-301; Ground	20
151	T-304; Ground	20
152	T-354; Ground	20
153	T-317; 2nd Level East	30
154	T-317; 2nd Level East	30
155	T-122; Ground West	30
156	North Control Room; Solvent Storage	20
157	North Control Room; Solvent Storage	20
158	North Control Room; between Offices Bldg. 100	10

SWS Silicones Corporation

SWS RCRA Plan, page 109c

Revised 1/20/81

FIRE EXTINGUISHERS

NUMBER	LOCATION	SIZE
160 CO2	Control Room South Breaker Room Bldg. 100	
161	Control Room North Door Bldg. 100	20
163	Monomers C-202 Ground	20
164	Monomers C-203 Ground	20
165	Monomers R-101 Ground	20
166	Monomers Solids Feed North Wall; Ground Bldg. 101	20
167	Monomers Solids Feed West Wall; Ground Bldg. 101	20
168	Monomers Solids Feed East Door; 2nd Bldg. 101	20
169	Monomers R-101; 2nd Level	20
170	Monomers Solids Feed; 3rd Level Bldg. 101	20
171	Monomers Solids Feed; 4th Level Bldg. 101	10
172	Monomers R-101; 3rd Level	20
173	Monomers R-101; 4th Level Bldg. 101	20
174	Monomers R-101; 5th Level	20
175	Monomers R-101; 6th Level	20
176	Monomers R-101; 7th Level	20
177	Monomers T-101	500
178	Monomers Bldg. 102 Southwest	30
180		500
181	Monomers HCl Watch Bldg. #23	
182	Fire House #1 Northside	10
183		
184		
185		
186		
187		
188		
189	Hi Bay North Personnel Door; Ground Bldg. 900	10
190	Hi Bay Outside Ladies Room; Ground Bldg. 900	20
191	Hi Bay Breaker Room; Ground Bldg. 900	
192	Hi Bay South Door	20
193	Hi Bay Bottleroom; North; Ground Bldg. 900	20
194	Hi Bay Bottleroom; South; Ground Bldg. 900	20
195	Hi Bay Ribbon Blender; 2nd Level Bldg. 900	20
196	Hi Bay T-962; 2nd Level Bldg. 900	20
197	Hi Bay Locker Area; 2nd Level Bldg. 900	10
198	Hi Bay Training Room Door; East Bldg. 900	10
199	Hi Bay Training Room Door; West Bldg. 900	20
200	Hi Bay Training Room Door; Hallway Bldg. 900	20
201	Hi Bay Training Room Door; Hallway Bldg. 900	10
202	Hi Bay R-902; Ground Level Bldg. 900	30
203		30
204		10
205	Hi Bay R-910; Ground Level; West Bldg. 900	20
206	Hi Bay M-916; Ground Level Bldg. 900	20
207	Hi Bay T-942; Ground Level Bldg. 900	20
208	Hi Bay M-922; Ground Level Bldg. 900	20
209	Hi Bay T-927; 2nd Level Bldg. 900	20
210	Hi Bay M-922; 2nd Level Bldg. 900	20
211	Hi Bay HL Pump Room; South Bldg. 900	20

Revised 1/20/81

SWS Silicones Corporation

FIRE EXTINGUISHERS

NUMBER	LOCATION	SIZE
212	Hi Bay ML Pump Room; North Bldg. 900	20
213	Hi Bay Gas Pump Bldg. 900	20
214	Hi Bay R-902; 2nd Level Bldg. 900	20
215	Hi Bay R-905; 2nd Level Bldg. 900	20
216	Hi Bay R-903; 2nd Level Bldg. 900	20
217	Hi Bay R-903; 3rd Level Bldg. 900	10
218	Hi Bay R-905; 3rd Level Bldg. 900	10
219	Hi Bay R-901; 4th Level Bldg. 900	20
220	Hi Bay R-905; 4th Level Bldg. 900	20
221	Hi Bay R-903; 4th Level Bldg. 900	10
222	Hi Bay Warehouse East Bldg. 802	20
223	Hi Bay Warehouse West Bldg. 802	20
224	Hi Bay Little Breaker Room Old Hi Bay	CO ₂
225	Hi Bay Breaker Room Outside Entrance South	CO ₂
226	Hi Bay 942; 2nd Level West Post	
227	Hi Bay Warehouse; Northwest Corner	20
228	Between Breaker Room West of 905	
229	Hi Bay R-905 East of ML Door	20
230	Engineering South Door Bldg. 60	10
231	Engineering Water Fountain Bldg. 60	10
232	Engineering North Door Bldg. 60	10
233		
234	North Door Ground Level Maint. Bldg. 60	30
235	Northwest Door Maint; Ground Level Bldg. 60	30
236	Maint. Instrument Shop Bldg. 60	10
237	Maint. South Door Bldg. 60	10
238	Maint. Southwest Door Bldg. 60	30
239	Maint. Office Trailer Bldg. 60	20
240	Fire Truck	
241	Fire Truck	20
242	Fire Truck	300
243	Maint. Tool Crib; Ground Bottom Stairway Bldg. 60	10
244	Maint. Tool Crib; 2nd Level Top Stairway Bldg. 60	20
245	Fire Truck	30
246	Fire Truck	10
247		
248		
249	Sanitary Sewer Bldg. Door	30

252

253

254

255

256

257

258

259

260

261

Cooling Water Pump House West Door Bldg. 22

20

Cooling Water Pump House East Door Bldg. 22

20

Sutton House Hallway; 1st Floor

10

Sutton House Kitchen; 1st Floor

20

Sutton House Basement

10

Sutton House Hallway; 2nd Floor

10

Sutton House Office; 3rd Floor

10

FIRE HOUSES

	1	2	3	4	5
300' HOSE					
1 1/2" FOG NOZZLE					
2 1/2" FOG NOZZLE					
2 1/2" X 1 1/2" NOZZLE					
2 1/2" X 1 1/2" SIAMESE					
BIG BEAM LIGHT			N.A.		
ADJUSTABLE HYDRANT WRENCH					
2 1/2" GATE VALVE					
FIRE AX					
6' PIKE POLE					
CROW BAR					
100' ROPE					
4 SPANNER WRENCHES					
2 HOSE STRAPS	N.A.				
2 1/2" + 1 1/2" GASKETS					
CLEANLINESS					
App					

WET SPRINKLER SYSTEMS

	VALVE OPEN	VALVE SEALED	PRESS. ABOVE	PRESS. BELOW
WAREHOUSE(OLD)				
WAREHOUSE (NEW)				
HI BAY NORTH				
HI BAY SOUTH				
FLUIDS				
RTV				
RTV WHSE.				
MAINT.				
RTV Addition				

	VALVE OPEN	VALVE SEALED	AIR PRESS.	WATER PRESS.
MICA WHSE.				
HI BAY WHSE.				
HCR WHSE				
FILLER TREAT				

FIRE DIESEL

ENGINE HOURS	
FUEL SUPPLY	
BATTERY WATER	
BATTERY CHARGER	

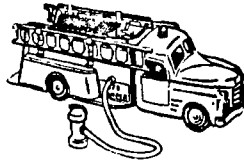
FIRE PUMP (ELEC.)

PUMP TESTED	25
PUMP DISCHARGE	26

VALVE NO.	OPEN	SC.
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		

Date: 5/31/83
Revision No.: 0

RAISIN TOWNSHIP FIRE DEPARTMENT



Submitted
Date: 5/31/83
Revision No.: 01
8/1/83

July 22, 1983

Mr. Gordon Philbrook
c/o SWS Silicones
Stauffer Chemical Corp.
Adrian , Michigan 49221

Mr. Philbrook:

In response to your request of July 5, 1983 I am sending you an updated letter with our current status listed.

1. Personell.

Raisin Township Fire Department currently consists of 45 members on a paid call basis broke down as follows.

- 1 - - Chief
- 2 - - Assistant chief's
- 2 - - Rescue captains
- 4 - - Fire Captains
- 36 - - Fireman & Rescue persons

Overall training includes 66 hour firemanship training, Officer training, rescue training, extrication courses, C.P.R. , Emergency medical technicians, overdose aid training, radiological training, hazardous materials courses and other related courses as they are made available.

2. Equipment: 10 vehicles as listed below.

- 81-1 Pumper tanker w/ 1000 gpm pump and 1000 gallons of water. This unit carries a deluge gun capable of discharging 1000 gmp.
- 81-2 Pumper tanker w/ 750 gpm pump and 1500 gallons of water. This unit has foam capability.
- 81-3 Combination 4 wheel drive grass rig and light rescue. This unit capable of handling most rescue situations.
- 81-4 Pumper w/ 750 gpm pump and 650 gallons of water.
- 81-5 Tanker w/ 350 gpm auxillary pump and 1500 gallons of water.
- 81-6 4 wheel drive vehicle -- grass rig with snowplow for situations in bad weather.
- 81-7 Main rescue unit with capability of treating many victims. This unit has the capability of direct communications with local hospitals. Forceable entry equipment up to and including the " jaws of life " are carried in this unit.
- 81-91 Ambulance New in 1981
- 81-92 Ambulance New in 1980
- 81-93 Ambulance New in 1980

App. B-31

JUL 27 1983

3. In addition to the equipment listed above we have the ability and capability of handling any and all situation which may occur. Self contained breathing apparatus is carried and would be used whenever the situation warranted.

As in the past SWS personell would act in an official capacity to help us control any situation that would occur.

Raisin Township personell will enter any building deemed safe for entry in the event of an emergency.

Our response time to your facility at the corner of Raisin Ctr Hwy and Sutton Rd should be 3-5 minutes under normal conditions.

In addition to the equipment owned and operated by the Township of Raisin, Mutual aid contracts in Lenawee County would put at our disposal, the knowledge and resources of eighteen other fire departments who would respond as required. Their dispatch would be accomplished through the command post of the Raisin Township Fire Department.

Respectfully,

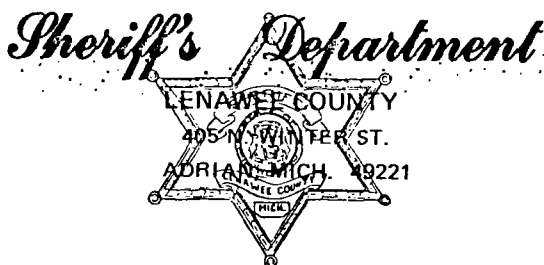
Carl F Wagner
Carl F Wagner

Raisin Township Fire Chief

MEMBER

National Sheriffs' Association

Michigan Sheriffs' Association



SHERIFF

RICHARD L. GERMOND

UNDERSHERIFF

RONALD R. WEILER

Phone: 517- 263-0524

Submitted

Date: 5/31/83

Revision No.: 01

8/1/83

July 6, 1983

Mr. Gordon Philbrook
SWS Silicones Corp.
3000 Sutton Rd.
Adrian, MI 49221

Dear Mr. Philbrook:

In the event of an emergency situation at your facility which would affect the health, well-being and property of surrounding residents and motorists, the Lenawee County Sheriff's Department and Office of Emergency Services would take the necessary actions in conjunction with the area Fire Departments to protect the life and health of the citizens and their property.

This would include invoking emergency disaster plans and annexes, (ACT 207 P.A. 1941, Act 390 P.A. 1976).

Immediate action to be taken would be to assess the potential threat, define the radius of evacuation, assign personnel to contact potential evacuees, traffic control and establish mass care shelters.

Sincerely,

Bruce Lucey, Captain
Deputy Director
Emergency Services

BL/es

JUL 7 1983

SWS Silicones Corporation

ADRIAN, MICHIGAN 49221 • TELEPHONE (517) 263-5711

Date: 5/31/83
Revision No.: 0

December 29, 1980

Mr. Paul Nelson, Administrator
Emma L. Bixby Hospital
818 Riverside Avenue
Adrian, MI. 49221

Dear Mr. Nelson:

In accordance with the new Hazardous Wastes Management rules and regulations recently (11/19/80) promulgated by the U.S. Environmental Protection Agency, we must have a contingency plan which includes arrangements agreed-to by local hospitals, in the event of a plant emergency, such as fires or explosions, involving hazardous wastes.

Our understanding is that Bixby Hospital can and would provide the following services, when appropriate:

1. The Emergency Room is available 24 hours/day.
2. Doctors are available or on call 24 hours/day at the Hospital.
3. There are emergency shower facilities at the Hospital Emergency Room area.
4. There would be communications between the Hospital, the Sheriff's department and the Ambulance service.
5. The Hospital has a heliport.
6. The Hospital maintains a 24 hour/day Poison Control center for information and advice concerning poisons and chemicals.

Please review our comments if you agree or have any suggestions please call me at 263-5711 Ext. 361. Your assistance is greatly appreciated in this matter.

Yours truly,

SWS SILICONES CORPORATION

Gordon C. Philbrook
Environmental Control Coordinator

SWS RCRA Plan, page 114
Revised 1/20/81

App. B-34

GCP:ceh
cc: J. Calamungi

Submitted
Date: 5/31/83
Revision No.: 01
8/1/83

EMMA L. BIXBY HOSPITAL

818 RIVERSIDE AVENUE

ADRIAN, MICHIGAN 49221

AREA 517 263-0711

BOARD OF TRUSTEES

BETTY L. SKILLMAN, PH.D.
CHARLES E. GROSS
GRACE MILEY
H. LYMAN DUNLAP
RICHARD GILMARTIN, M.D.
REX MARTIN
ROBERT MEYERS

PAUL E. NELSON, F.A.C.H.A.
President

July 6, 1983

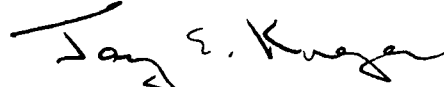
Mr. Gordon C. Philbrook
Environmental Control Coordinator
SWS Silicones Corporation
Adrian, Michigan 49221

Dear Mr. Philbrook:

In reply to your letter of July 5, 1983 concerning your plant
Emergency Contingency Plan, and updating of same, Bixby Hospital
can and will provide the six services as outlined in your letter
of December 29, 1980.

If we may be of further service, please do not hesitate to
contact me.

Sincerely,



Jay E. Kreuzer
Executive Vice President

JEK:prc

cc: Patricia Lamb, M.D.
Medical Director, Emergency Room

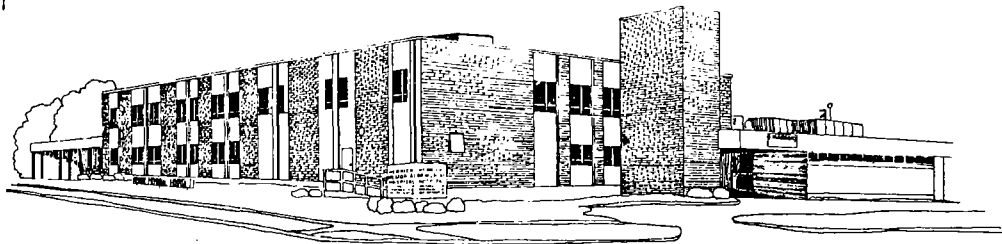
JUL 8 1983

HERRICK MEMORIAL HOSPITAL

500 E. POTTAWATAMIE STREET
TECUMSEH, MICHIGAN 49286
(517) 423-2141

Submitted
Date: 5/31/83
Revision No.: 01
8/1/83

WILLIAM R. GROOVER
ADMINISTRATOR



July 8, 1983

Mr. Gordon Philbrook
Environmental Control Coordinator
Stauffer Chemical - SWS Silicons Corporation
Sutton Road
Adrian, Michigan 49221

Dear Gordon:

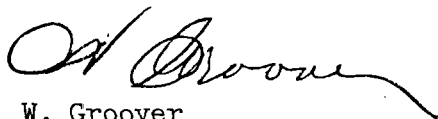
This letter is to assure you that within the limits of our capability we will be glad to care for any sick or injured personnel coming from your plant day or night.

Our Emergency Room is manned twenty-four (24) hours a day with physicians and we also have laboratory and x-ray personnel on-call around the clock.

In addition to the above we have the ability to land a Life Flight helicopter near our Emergency Room which carries a doctor and nurse for transferring patients to other Medical Centers as needed.

If you have any questions or comments please feel free to call me at any time.

Sincerely yours,


W. Groover

cc: Emergency Room
- Outpatient

WG:zw

JUL 13 1983

ADRIAN, MICHIGAN 49221 • TELEPHONE (517) 263-5711

August 24, 1983

Richard H. Gascoigne M.D.
Mill Road
Adrian, Michigan 49221

Dear Dr. Gascoigne:

In accordance with the Hazardous Wastes Management rules and regulations promulgated by the U.S. Environmental Protection Agency, we must have a contingency plan which includes arrangements agreed to by local agencies, in the event of a plant emergency, such as fires, explosions or spills, involving hazardous wastes.

Our understanding is that you will provide assistance through the Bixby Hospital emergency room as outlined in the Lenawee County Disaster Plan procedure.

Please acknowledge this letter, along with any other appropriate comments.

Yours truly,

SWS SILICONES CORPORATION

Gordon C. Philbrook

Gordon C. Philbrook
Environmental Control Coordinator

GCP:pb 83-165

cc: J. Calamungi
T. E. Degnan
H. Kim

*Dear Gordon
I'd be happy to help in
any way.*

Rich

AGREEMENT

THIS AGREEMENT is made this 1st day of November by and between SWS Silicones Corp. and Associated Chemical and Environmental Services, Inc. ("ACES"), an Ohio corporation.

W I T N E S S E T H, that:

WHEREAS, ACES has the expertise, equipment, aircraft and personnel necessary to respond quickly and evaluate, contain and clean-up Discharges safely and in accordance with applicable government regulations; and

WHEREAS, SWS and ACES desire that ACES provide such services to SWS in accordance with the terms of this Agreement;

NOW, THEREFORE, in consideration of the mutual promises and agreements herein set forth SWS and ACES hereby agree as follows:

I. DEFINITIONS

1.1 In this Agreement the following expressions shall have the meanings thereafter appearing:

(a) "Substance" shall mean any material or substance, including (without limitation) any hazardous material regulated from time to time by the U.S. Department of Transportation and any substance regulated from time to time by U.S. Environmental Protection Agency, or Michigan Department of Natural Resources.

(b) "Clean-up" shall mean to control, neutralize, decontaminate, treat, or change any Substance so as to render it nonhazardous.

(c) "Discharge" shall mean any spilling, leaking, condition of or condition caused by any Substance which wishes ACES to clean-up.

(d) "Contract Area" shall mean the continental United States, including Alaska, all inland waters and all coastal waters up to three miles from shore.

(e) "Primary Contract Area" shall mean the Contract Area east of and including North Dakota, South Dakota, Nebraska, Kansas, Oklahoma and Texas.

(f) "Secondary Contract Area" shall mean the Contract Area other than the Primary Contract Area.

II. ENGAGEMENT

2.1 SWS may, from time to time engage ACES, and ACES hereby commits to "accept such engagement" to clean up Discharges occurring in the Contract Area, in accordance with the terms and conditions contained in this Agreement. The relationship of ACES to SWS shall be that of an independent contractor.

2.2 SWS retains the right to have any Discharge cleaned up by its own employees "or by a third party".

3.1 This Agreement shall become effective upon execution and shall remain in effect for two years; provided, however, that either party may terminate this Agreement at any time upon sixty days' written notice.

In the event either party defaults in the performance of its obligations hereunder and fails to correct such default within three (3) days after notice thereof by the non-defaulting party, the non-defaulting party may immediately terminate this Agreement.

3.2 Termination of this Agreement for any reason, whether at the end of the term or otherwise, shall not relieve ACES of its responsibility to complete the clean-up and disposal of any Discharge of which it was notified before the effective date of the termination, nor shall it relieve either party of any obligations then accrued hereunder, or which extend beyond the term hereof.

IV. CLEAN UP

4.1 SWS may engage ACES to clean up a Discharge at any time by calling (419)-726-1521. The Director of Health and Safety and The Corporate Traffic Director are authorized to make such engagement. SWS shall provide ACES with such information as SWS has reasonably available concerning the location of the Discharge and the identity of the Substance(s) involved, and such other information as ACES may reasonably request as necessary to provide all services called for by this Agreement.

4.2 Upon receipt of instructions to Clean-up any Discharge, ACES shall commence Clean-up at the site of the Discharge as quickly as possible and in any event within eight hours after receipt of such instructions or, for a Discharge in the Secondary Contract Area, within such time as is agreed upon when ACES accepts the engagement.

4.3 ACES shall provide all necessary transportation, supervision, personnel, equipment and materials and shall clean-up the Discharge to the extent possible using the best practices and the best available technology. ACES shall perform the Clean-up in a diligent and cost-efficient manner employing such personnel and equipment and working such hours as is necessary to protect health and the environment with respect to both its own employees and the general public.

4.4 ACES shall notify SWS immediately upon its arrival at the site of the Discharge and shall remain available to answer any questions SWS might have concerning the Discharge and Clean-up. In addition, as soon as possible (but not later than 24 hours) after arriving at the site, ACES shall provide SWS with:

- (a) Description of the Discharge and its estimated environmental effects;
- (b) A description of the steps taken and to be taken with respect to the Clean-up and disposal of the Discharge;
- (c) An estimate of the cost of the services provided and to be provided; and
- (d) A list of any government or agency representatives who have visited the site of the Discharge or reviewed the Clean-up operation and a discussion of any instructions or comments given by such persons.

Significant changes in the information supplied shall be reported to SWS as soon as known by ACES. Each such report shall be made to Mr. Gordon Philbrook at (517) 263-5711 and to any designated SWS representative at the site. ACES shall promptly confirm all reports to SWS in writing, and shall supply copies of all daily logs. SWS may, at any time and for any reason, discontinue the clean-up of any Discharge by notifying ACES at the site of the Clean-up or by calling (419) 726-5120; provided, however, that any such discontinuation will not relieve SWS of its obligation to pay for services already provided. Each of the persons specified in Section 4.1 is authorized to order such a discontinuation. App. C-3

4.5 ACES shall perform the Clean-up in complete compliance with all applicable federal, state and local laws and regulations and, subject to the restrictions on the disclosure of confidential information described in Article VIII, shall cooperate fully with any government official or representative having jurisdiction over the Clean-up unless advised otherwise by SWS.

4.6 ACES will advise SWS promptly of all notifications of the Discharge required by federal, state or local laws or regulations and if SWS requests, will make such notifications.

4.7 ACES will dispose of the Substance or Substances and any other materials collected in the Clean-up as and where directed by SWS.

4.8 Upon completion of the Clean-up and disposal, ACES shall provide SWS with a written report of the services provided, including:

- (a) A description of the Discharge;
- (b) An itemized description of the services performed, including the cost of each;
- (c) A description of any disposal, including the amount received on behalf of SWS for salvage; and
- (d) A list of the government or agency representatives who visited the site of the Discharge or reviewed the Clean-up operation and a discussion of any instructions or comments given by such persons.
- (e) A list of all Government Agencies to which it has made notifications pursuant to paragraph 4.6 above.

ACES shall also provide SWS with copies of any logs or other records it maintains concerning the clean-up not previously sent to SWS.

V. FEES

5.1 SWS shall pay ACES for the services provided under this Agreement at the rates specified on Exhibit A hereto. Terms of payment shall be five percent (5%) 20 days/net 30 days from the date the invoice is received. An additional two percent (2%) discount shall be allowed for all services except those provided by ACES' subcontractors.

5.2 All invoices shall be itemized, setting forth in detail the charges for labor and equipment attributable to each Clean-up operation except that for operations requiring more than seven days to complete, interim invoices may be submitted every seven days and shall be paid in accordance with this Article V.

5.3 The fees established in this Article V shall not be increased during the first year of this Agreement. For services rendered during the second year of this Agreement, the fees payable hereunder may be increased to the extent ACES' published rate sheet is increased for customers generally; provided, however, that the total amount due on any invoice for services rendered during the second year shall not exceed by more than ten percent (10%) the total amount that would be due for the same services under the current rate schedule.

V.I. REPRESENTATIONS

6.1 ACES represents that it is qualified to perform the Clean-up and disposal services contemplated by this Agreement, that it will employ only qualified personnel and hire only qualified subcontractors, and that it and each of its subcontractors and agents has all permits, licenses and authorizations necessary to perform such services.

ACES shall insure that all employees of ACES and of ACES' subcontractors, are given adequate safety instructions and equipped with adequate safety equipment for handling any substance with which they may come in contact.

VII. RESPONSIBILITY AND INDEMNIFICATION

7.1 The parties recognize the potential risks of injury to persons and property in the clean-up of Discharges and acknowledge the expertise of ACES in assessing and handling such risks. In recognition of that expertise, in view of ACES' responsibility for Clean-up and in consideration of the rates paid hereunder, ACES shall be solely responsible for all of its work in connection with this Agreement. Notwithstanding any other provision in this Agreement, SWS shall not be liable for any loss, damage or injury sustained by ACES, its employees or agents in connection with this Agreement. ACES shall indemnify, defend and save harmless SWS from and against any and all claims for fines, penalty, loss, damage or injury, and any expense (including without limitation costs of settlement and reasonable attorneys' fees) resulting therefrom, in any way relating to the Clean-up or disposal of any Discharge and/or the performance or non-performance by ACES hereunder whether based on negligence, breach of warranty or strict tort liability or otherwise, except to the extent any such loss, damage or injury is caused by SWS failure to advise ACES of latent dangerous conditions created by negligent acts of SWS employees, known to SWS and not reasonably ascertainable by ACES. The provisions of this Section VII shall survive termination, expiration or cancellation of this Agreement.

VIII. SECRECY

8.1 In connection with the services to be provided by ACES under this Agreement, SWS may disclose confidential information, including (without limitation) that relating to the identity, composition and properties of the Substances (the "Information"). This Information is proprietary to SWS, is secret and confidential, and constitutes assets of great value.

8.2 Any Information disclosed by SWS is disclosed for the limited purpose of assisting ACES in providing the services contemplated by this Agreement. ACES shall keep any and all Information confidential and in strict secrecy, and shall not disclose the Information to any government official, representative or agency or to any other third party or parties (including parent companies, subsidiaries or affiliates) without the written consent of SWS. ACES shall immediately refer any requests by government or agency representatives for the Information to SWS.

ACES shall use the Information only for the purpose of providing services under this Agreement and shall grant access to the Information only to those employees of ACES as are reasonably necessary to accomplish that purpose.

8.3 Upon request by SWS, ACES shall return to SWS the Information and all writings provided by SWS or prepared by ACES that contain the Information, including all excerpts, summaries, reproductions and copies thereof.

9.1 ACES shall promptly purchase a performance bond, from a company acceptable to SWS, for the Clean-up of each Discharge that ACES estimates will cost more than \$50,000.00.

X. INSURANCE

10.1 ACES shall procure and maintain, at its expense, during the term of this Agreement, at least the following insurance, covering all obligations and activities performed under this Agreement, including any work performed by any subcontractor:

<u>TYPE</u>	<u>LIMITS</u>
Workers' Compensation; Employer's Liability	Statutory; minimum limits of \$500,000 each injury/occupational disease
Comprehensive General Liability Insurance, including Contractual and Independent Contractors Liability and Automobile Liability	Bodily injury and death: \$3,500,000 combined single limit Property damage: \$3,500,000 combined single limit

Before disposing of any Substance(s) under this Agreement, ACES shall supply evidence to SWS that the facility receiving the Substance(s) maintains such Environment Impairment Liability Insurance as may be required by SWS.

ACES shall not begin any operations under this Agreement until it has obtained all the insurance listed above and has furnished SWS with certificates of such insurance and, if requested by the Company, copies of the policies. Each certificate shall contain a statement of the coverage under the policy, including a statement of blanket contractual coverage with respect to this Agreement, a waiver of subrogation with respect to SWS, and a statement of the insurer's obligation to notify SWS of any change in or cancellation of any policy covered thereunder at least ten (10) days prior thereto. Compliance or lack of compliance with this Section X shall in no way relieve ACES from its obligations of responsibility and indemnification provided in Section VII.

XI. GENERAL

11.1 Neither party shall be liable to the other for any delay in performance hereunder caused by an act of God, explosion, war or act of a foreign enemy, or any other unforeseen cause beyond the control of such party; provided, however, that the parties recognize the importance of prompt, diligent action in performing the services contemplated by this Agreement and agree to make every effort to perform such services according to the terms hereof. Each party agrees to provide the other with immediate notice of the existence or anticipated existence of any condition that may affect its performance under this Section 11.1.

11.2 ACES may, with prior written consent, subcontract to qualified persons all or part of the services to be provided hereunder; provided, however, that ACES shall remain responsible for the provision of such services in accordance with the terms hereof, including, without limitation, the provision of public liability insurance in accordance with section 10.1 covering the subcontractor.

11.3 Except for discussions with government officials or representatives in accordance with Section 4.5, ACES shall not disclose information concerning a Discharge or clean-up operation to anyone other than SWS personnel.

11.4 All written notices and reports to be made or given under this Agreement shall be delivered by certified mail, return receipt requested, to the address set forth opposite the signature of the receiving party at the end of this Agreement, or at such other address as such party shall hereafter designate.

11.5 This Agreement supersedes all prior agreements and understandings between the parties hereto relating to all or any part of the subject matter hereof, and there are no written or oral terms, conditions or representations made by either party other than those contained herein.

11.6 No waiver by any party of any breach by the other party of any term or condition of this Agreement to be performed by such other party shall be deemed a waiver of any prior or subsequent breach of such term or condition or of any similar or dissimilar term or condition.

11.7 This Agreement shall be governed by and interpreted under the law of the State of Ohio.

IN WITNESS WHEREOF, the parties have caused this agreement to be executed by their respective officers thereunto duly authorized as of the date first above written.

SWS SILICONES CORPORATION

BY: _____

TITLE _____

ATTN: _____

ASSOCIATED CHEMICAL AND
ENVIRONMENTAL SERVICES, INC. (ACES)

BY: _____

TITLE _____



FONDESSY ENTERPRISES, INC.
ASSOCIATED CHEMICAL AND ENVIRONMENTAL SERVICES

876 OTTER CREEK ROAD P.O. BOX 7571 OREGON, OHIO 43616
(419) 726-1521 (24 HOURS)

1982 PERMIT LISTING

April 8, 1982

I Fondessy Enterprises, Inc.
876 Otter Creek Road
Oregon, Ohio 43616

	<u>RCRA</u>	<u>OHIO</u>
Landfill	OHD 045243706	03-48-0092
Landfarm	OHD 045243706	03-48-0092
Transporter	OHD 045243706	PUCO #51-HW, ICC #37806-EX

II ACES
876 Otter Creek Road
Oregon, Ohio 43616

	<u>RCRA</u>	<u>OHIO</u>
Transporter	OHD 045247905	PUCO #51-HW, ICC #37806-EX

III FEI Landfarm Site #2
Cedar Point & Wynn Road
Oregon, Ohio 43616

	<u>RCRA</u>	<u>OHIO</u>
Landfarm	OHD 000721415	03-48-0094

IV FEI Landfarm Site #3
Dupont Road
Oregon, Ohio 43616

	<u>RCRA</u>	<u>OHIO</u>
Landfarm	OHD 000721423	03-48-0093

02/02/82 F/A EQUIPMENT LIST PAGE 1

EQUIPMENT# DESCRIPTION

02-2044.55 D-65P WIDETRACK KOMATSU
02-3001.53 CAT D6B DOZER & WINCH
02-3004.52 54 CAT BULLDOZER
02-3007.56 CAT D8 DOZER
02-3008.56 CAT D8H CRAWLER DOZER
02-3010.59 58 CAT D9 DOZER
02-3824.56 D-85E KOMATSU DOZER
02-5002.54 CAT D6C DOZER
02-5011.59 57 CAT D9 DOZER
02-5018.58 75 IH-TD8C-DOZER-6-WAY
02-5019.57 76 IH TD8E DOZER 6 WAY
02-5020.55 D6D CAT DOZER LGP
02-5023.50 79 D3 CAT WIDETRACK DOZER
02-5024.50 79 D-3 CAT DOZER
02-5113.51 79 CAT TRASH COMPACTOR
04-3306.41 75 J.D. 410 BACKHOE
04-3307.41 75 J.D. 410 BACKHOE
04-4310.42 78 JCB BACKHOE
04-4606.46 78 INSLEY CRAWLER BACKHOE
04-5304.41 73 J.D. 410 BACKHOE
04-5312.43 FORD 730-20 ENDLOADER
04-605.46 GRADALL CRAWLER
04-6800.40 '69 J. D. 400 BACKHOE
06-1435 72 SUPERIOR MOTOR HOME
06-4300 73 BOSTON WHALER
06-4301 '73 BOSTON WHALER SIG.ENG
06-4840 77 CHEVY STA WAGON
06-4842 79 CHEVROLET STN.WGN.
06-4843 '80 FORD LTD SEDAN
06-4924 OIL MOP MACHINE
06-5063 78 FORD BRONCO
06-6241 79 GMC JIMMY 4-WHL DRIVE
08-3707 LEROI AIR COMPRESSOR
08-3708 INGERSOL AIR COMPRESSOR
08-3709 LEROI AIR COMPRESSOR
08-3711 LEROI AIR COMPRESSOR
08-3713 WESTINGHOUSE AIR COMP.
08-4715 LEROI AIR COMPRESSOR
08-4716 KELLOG AIR DRYER
08-5705 GARDNER-DENVER AIR COMP.
08-5706 GARDNER-DENVER AIR COMP.
08-6710 GARDNER-DENVER AIR COMP.
00-3400L11 48 BAY CITY TRK CRANE
00-3400U11 48 BAY CITY TRK CRANE
00-3402L12 68 LIMA TRK CRANE
00-02U12 65 TON LIMA TRK CRANE
00-3411L14 69 LIMA 900T TRK CRANE
00-3411U14 69 LIMA 900T TRK CRANE
00-3413L16 LINKBELT HC 238
00-3413U16 73 LINKBELT HC 238

02/02/82 F/A EQUIPMENT LIST PAGE 2

EQUIPMENT# DESCRIPTION

10-3502.25 GROVE RT 60 CRANE
10-4515.24 GROVE RT58 CRANE
10-5412L34 GROVE TMS375LP CRANE
10-5412U34 GROVE TMS375LP CRANE
10-5503.24 74 GROVE HYD CRANE
10-5513.26 72 PETTIBONE HYD CRANE
10-5514.27 77 GROVE RT620S CRANE
10-5516.31 78 GROVE RT75S CRANE
10-5603.39 PEH CRAWLER CRANE
10-6020L37 1980 GROVE HYDRA CRANE
10-6020U37 1980 GROVE HYDRA CRANE
10-6401L14 71 LIMA 900T TRK CRANE
10-6401U14 71 LIMA 900T TRK CRANE
10-6402L14 71 LIMA 900TA TRK CRANE
10-6402U14 71 LIMA 900TA TRK CRANE
10-6403L13 70 LIMA TRK CRANE
10-6403U13 70 LIMA TRK CRANE
10-6405L17 77 LINKBELT HC258
10-6405U17 77 LINKBELT HC258
10-6503.25 69 PETTIBONE HYD CRANE
10-6505.24 74 GROVE HYD CRANE
10-6508L35 71 GROVE HYD. CRANE
10-6508U35 71 GROVE HYD. CRANE
10-6511L33 74 PEH HYDRACRANE
10-6511U33 74 PEH HYDRACRANE
10-6514L26 73 PETTIBONE HYD. CRANE
10-6514U26 73 PETTIBONE HYD CRANE
10-6515L36 74 GROVE TM650T HYD CRANE
10-6515U36 74 GROVE TM650T HYD CRANE
10-6516.15 100 TON CRAWLER CRANE
10-6517.27 78 GROVE RT620S CRANE
10-6518.18 LS98 CRAWLER CRANE
10-6519.24 GROVE RT58 CRANE
10-6520.23 GROVE STEVEDORE
2-1924 TOW MOTOR FORK LIFT
2-3101.62 CAT LOADER CRAWLER
2-3103.65 71 CAT 977L ENDLOADER
2-3109.64 CAT 966 ENDLOADER
2-3110.66 988 CAT ENDLOADER
2-4115.68 BROWN BEAR 1 TRA. W/AUGER
2-4311.67 79 SWINGER LOADER
2-4951 IH FORKLIFT
2-5102.63 CAT 955K ENDLOADER
2-5108.65 77 CAT 977L ENDLOADER
2-5109.65 71 977K CAT ENDLOADER
2-5111.61 CAT 950 ENDLOADER
2-5114.60 CAT 910 LOADER
4-3201.70 CAT 12 GRADER
4-3203.70 CAT 12 GRADER
4-3204.70 CAT 14 GRADER

02/82

F/A EQUIPMENT LIST

PAGE 3

EQUIPMENT# DESCRIPTION

14-3259.49 DODGE WAYNE ST. SWEEPER
14-3260.49 DODGE WAYNE ST. SWEEPER
16-1900.69 FABRICATED LIGHT PLANT
16-1901.69 FABRICATED LIGHT PLANT
16-1902.69 FABRICATED LIGHT PLANT
16-1909.69 OVERLOWE LIGHT PLANT
16-4904.69 ALLMAND LIGHT PLANT
16-4905.69 ALLMAND LIGHT PLANT
16-4906.69 ALLMAND LIGHT PLANT
16-4907.69 OVERLITE LIGHT PLANT
16-4908.69 OVERLITE LIGHT PLANT
16-4932.69 SUN LITE TOWER LT. PLT.
16-4933.69 SUN LITE TOWER LT. PLT.
16-4934.69 SUN LITE TOWER LT. PLT.
16-5903.69 GENERATOR LIGHT PLANT
16-5910.69 OVERLOWE LIGHT PLANT
16-5911.69 OVERLOWE LIGHT PLANT
8-1910.99 4 INCH GORMAN RUPP PUMP
8-1917.99 3 INCH GORMAN RUPP PUMP
8-1918.99 BARNES SUBMERSIBLE PUMP
8-1919.99 3 INCH GORMAN RUPP PUMP
8-1925.99 4 INCH GORMAN RUPP PUMP
8-1926.99 3 INCH GORMAN RUPP PUMP
8-4911.99 4 INCH GORMAN RUPP PUMP
8-4912.99 4 INCH GORMAN RUPP PUMP
8-4913.99 4 INCH GORMAN RUPP PUMP
8-4914.99 4 INCH GORMAN RUPP PUMP
8-4915.99 6 INCH GORMAN RUPP PUMP
8-4923.99 4 INCH GORMAN RUPP PUMP
8-4925.99 4 INCH GORMAN RUPP PUMP
8-4926.99 6 INCH GORMAN RUPP PUMP
8-4930.99 3 IN GORMAN RUPP SUB PUMP
8-4931.99 GORMAN RUPP SUBMRSBLE PMP
8-4960.99 4" MARLOWE PUMP
8-4961.99 HYDRAULIC PLASTONIC PUMP
8-4962.99 ELECTRIC PLASTONIC PUMP
8-4963.99 4" GR.(FABRICATED) PUMP
8-5920.99 8 INCH CRISAFULLI PUMP
0-1440.72 ROME HARROW PLOW
0-3251.71 WABCO ELEV. SCRAPER
0-3255S71 TS14-SCRAPER
0-3255T71 TS14-SCRAPER
0-3256.72 CAT 70 PULL SCRAPER
0-3258.72 CAT 70 PULL SCRAPER
0-5210.72 ROME HARROW PLOW
2-1004.84 78 GMC TANDEM DUMP TRUCK
2-1005.84 78 GMC TANDEM DUMP TRUCK
2-1007.84 78 GMC TANDEM DUMP TRUCK
2-1011.83 72 IH TANDEM DUMP TRK.
2-1012.83 72 IH TANDEM DUMP TRK.

02/02/82 F/A EQUIPMENT LIST PAGE 4

EQUIPMENT# DESCRIPTION

22-1016.84 73 GMC TANDEM DUMP TRUCK
22-1017.84 73 GMC TANDEM DUMP TRUCK
22-1018.84 73 GMC TANDEM DUMP TRUCK
22-1019.84 73 GMC TANDEM DUMP TRUCK
22-1020.84 73 GMC TANDEM DUMP TRUCK
22-1123.81 67 IH SA DUMP TRK.
22-1126.91 55 GMC LUBE TRUCK
22-1127.91 69 GMC-VALUE VAN
22-1131.92 62 GMC FUEL TANKER
22-1134.77 64 IH-OIL TANKER
22-1136.93 78 FORD SERVICE TRK
22-1190.81 78 GMC SA DUMP TRK.
22-1191.81 67 FORD SA DUMP TRK
22-1250.93 69 CHEVROLET PICKUP TRUCK
22-1251.93 71 CHEVROLET PICKUP TRUCK
22-1264.93 78 FORD 4X4 PICKUP TRK
22-1350.73 60 IH SA TRACTOR
22-1357.73 62 IH SA TRACTOR
22-1361.74 66 MACK TANDEM TRACTOR
22-1365.94 69 IH TANDEM FLATBED
22-1371.74 72 MACK TANDEM TRACTOR
22-2102.95 75 MACK REFUSE PACKER
22-2106.96 70 CCC ROLL OFF TRK.
22-2107.96 72 CCC ROLLOFF TRUCK
22-2109.95 77 CCC REFUSE PACKER
22-2110.96 77 CCC ROLL OFF TRK
22-2114.95 73 GMC REFUSE PACKER
22-2115.96 74 MACK ROLLOFF
22-2116.96 74 CCC ROLL OFF TRK
22-2117.96 77 CCC ROLL OFF TRK
22-2118.95 78 CCC REFUSE PACKER
22-2119.95 78 CCC REFUSE PACKER
22-2120.95 '81 MACK FRONT-END PACKER
22-2127.97 59 GMC DEMPSEY DUMPSTER
22-2129.97 67 GMC DUMPSTER
22-2133.97 77 INT. SINGLE AXLE TRACT
2-4035.76 71 GMC VAC TRK.
2-4036.76 71 GMC VAC TRK.
2-4039.80 70 FORD FLATBED TRUCK
2-4041.94 MACK TANDEM AXLE FLATBED
2-4042.76 76 GMC VAC TRK.
2-4043.76 76 GMC VAC TRK.
2-4045.76 52 GMC 6X6 VAC TRK.
2-4047.77 71 FORD FUEL TANKER
2-4048.78 1980 MACK VACUUM TRUCK
2-4049.78 1981 MACK VACUUM TRUCK
2-4050.78 '80 FORD VAC TK, 3360 GAL
2-4056.80 GMC FLATBED TRK
2-4059.93 77 GMC CREW CAB PICKUP
2-4060.93 78 FORD SUPER CAB PICKUP

02/02/82 F/A EQUIPMENT LIST PAGE 5

EQUIPMENT# DESCRIPTION

22-4062.93 78 FORD 4-WD PICKUP TRK
22-4063.93 '81 FORD PICK UP TRUCK
22-4066.74 67 MACK TANDEM TRACTOR
22-4070.94 73 IH TANDEM FLATBED
22-4072.74 78 GMC TDM TRACTOR
22-4073.74 78 GMC TDM TRACTOR
22-4074.74 73 GMC TANDEM TRACTOR
22-4075.74 72 MACK TANDEM TRACTOR
22-4131.74 77 INTERNATIONAL TRACTOR
22-4143.93 78 FORD 4 WHEEL DRIVE VAN
22-4144.93 78 FORD CLUB VAN
22-4927.93 77 JEEP PICKUP 4X4
22-4928.93 77 JEEP PICKUP 4X4
22-5021.81 70 IH DUMP TRK.
22-5022.81 70 IH DUMP TRK
22-5028.77 65 FORD FUEL TANKER
22-5029.23 68 FORD TANDEM BOOM TRK
22-5043.93 74 CHEVY PICKUP
22-5044.93 76 GMC PICKUP TRK
22-5046.80 65 FORD STAKE TRUCK
22-5047.80 68 FORD FLATBED TRUCK
22-5048.80 70 CHEVY FLATBED TRK.
22-5050.74 65 IH TANDEM TRACTOR
22-5052.74 67 WHITE TANDEM TRACTOR
22-5053.93 72 CHEVY PICKUP TRK
22-5058.74 67 WHITE TANDEM TRACTOR
22-5064.93 1977 AMC JEEP CJ-7
22-5067.74 74 MACK TDM TRACTOR
22-5068.74 74 MACK TANDEM TRACTOR
22-5069.80 69 GMC FLATBED TRUCK
22-5076.74 72 MACK TANDEM TRACTOR
22-5925 WARD LEFRANCE FIRE ENGINE
22-6101.74 67 MACK TANDEM TRACTOR
22-6103.74 67 MACK TANDEM TRACTOR
22-6105.80 71 GMC FLATBED TRK.
22-6120.80 66 FORD COVERED VAN
22-6121.80 79 GMC 1 TON STAKE TRUCK
22-6122.74 71 MACK TANDEM TRACTOR
22-6129.80 '81 GMC STAKE TRUCK
22-6130.74 77 INTERNATIONAL TRACTOR
4-1401.86 61 OTTAWA LOWBOY TRL.
4-1402.87 64 NELSON LOWBOY TRL.
4-1403.87 68 FONTAINE LOWBOY TRL.
4-1404.88 69 NELSON LOWBOY TRL.
4-1405 FRUEHAUF TOOL TRL.
4-1406 51 TRAILMOBILE TANKER
4-1407 70 TRAILMOBILE FLATBED
4-1409 FRUEHAUF TOOL TRL.
4-1412 FRUEHAUF OFFICE TRL.
4-1415 72 LITTLE DUDE BOAT TRL.

02/82

F/A EQUIPMENT LIST

PAGE 6

EQUIPMENT# DESCRIPTION

24-1418 B C K TRI-AXLE TRL.
24-1425 70 TANDEM BOOM TRL.
24-1426 NELSON TAG AXLE TRL.
24-1436 TRAILMOBILE 40' FLATBED
24-2108 ANCHOR PAC ROLLOFF TRL.
24-4010 WHITEHEAD CAR CARRIER
24-4013 38" OIL SPILL TRL.
24-4014 63 FRUEHAUF VAN TRL.
24-4016 57 HEIL TANKER TRL.
24-4017 62 FRUEHAUF VAN TRL.
24-4019 COMISSARY TRL.
24-4020 FRUEHAUF VAN TRL.
24-4021 TANDEM BOOM TRL.
24-4022 TANDEM BOOM TRL.
24-4023 TANDEM BOOM TRL.
24-4024 TANDEM BOOM TRL.
24-4025 HOMEMADE BOOM TRL.
24-4026 80 ACE OIL BOOM TRAILER
24-4027 BOAT TRL.
24-4028 68 FLATBED TRL.
24-4029 69 KENTUCKY VAN TRL.
24-4030 69 KENTUCKY VAN TRL.
24-4031 DECONTAMINATION TRL. 1980
24-4032.79 '76 VACUUM TRAILER UNIT
24-4033 1972 WELLES TRAILER
24-4040.75 71 SKID VAC-TRL MOUNT
24-5031 67 FRUEHAUF DUMP TRL.
4-5032.88 78 NELSON LOWBOY TRL.
4-5033.98 70 FRUEHAUF TANKER TRL
4-5034.98 70 FRUEHAUF TANKER TRL
4-5099 ATLANTIC OFFICE TRL.
4-5429 77 BOWSMAN TRL.
4-5431 4-AXLE UTILITY TRL.
4-5432.98 '70 FRUEHAUF TRAILER
4-6110.87 65 FONTAINE LOWBOY TRL.
4-6111.89 64 FRUEHAUF FLATBED TRL.
4-6112 TANDEM BOOM TRL.
4-6113 TANDEM BOOM TRL
4-6114 TANDEM BOOM TRL
4-6117 HOMEMADE BOOM TRL.
4-6118 80 HOMEMADE BOOM TRL.
4-6119 80 HOMEMADE BOOM TRL.
4-6123 80 HOMEMADE BOOM TRL.
4-6124 80 HOMEMADE BOOM TRL.
4-6125 80 HOMEMADE BOOM TRL.
4-6126 80 HOMEMADE BOOM TRL.
4-6127 HOMEMADE BOOM TRAILER
4-6128 HOMEMADE BOOM TRAILER
5-4200 80 LOG SPLITTER
5-4600.79 E-2 PACK BARREL CRUSHER

02/02/82 F/A EQUIPMENT LIST PAGE 7

EQUIPMENT# DESCRIPTION

26-5308.45 JOHN DEERE 2020 FARM TRAC
28-1700 200 AMP LINCOLN WELDER
28-1701 200AMP AC-DC WELDER
28-1703 300 AMP HOBART WELDER
28-1704 HOBART WELDER
28-1705 MILLER WELDER
28-1706 MILLER WELDER
28-4750 MILLER WELDER
99999 -- -GENERAL RERAIR NUMBER

309 RECORDS PROCESSED

APPENDIX D

OIL AND HAZARDOUS SUBSTANCES
SPILL PREVENTION CONTROL AND COUNTERMEASURE
(SPCC) PLAN

OIL AND HAZARDOUS SUBSTANCES
SPILL PREVENTION CONTROL AND COUNTER MEASURE PLANFebruary 3, 1984
-Revision-I. Objective

The objective of this plan is to prevent the discharge of any oils, gasoline, petrochemicals or hazardous substances to the River Raisin. This shall entail any means required, during a spill incident, even including shutdown of manufacturing operations, until the discharge effluent meets all requirements under the law.

II. Coverage

The materials covered by this plan will be comprised of fuel oil, gasoline, lubricating oils, heat transfer oil (mobiltherm), petrochemicals, items on the Michigan Water Resources Commission Critical Materials Register, and items on the EPA Hazardous Substances list, which are used at the Adrian facility.

III. Facility Drainage

- A. Flow from all plant processing areas will, via a network of ditches and culverts, be directed to a closed lagoon or discharged through an API style oil separator, and from the separator to a 2MM gallon pond before discharge to the river. Flow from the pond will be closely monitored and operation of the separator checked on a routine basis.
- B. All other drainage within the plant flows naturally to a pond containing 750,000 gallons of water designed to trap floating fluids. The discharge water from the trap is periodically released to the river. The same pond permits total containment of 3.0MM gallons of contaminated water.

IV. Oil Storage (Refer to Table I)

Fuel oil could be stored in underground tanks, but these two tanks are presently inactive. Diesel fuel is stored in three small underground tanks. Mobiltherm is stored in drums prior to use and also in a 3,000 gallon surge tank, which is part of the hot oil system. Gasolene is stored in two underground tanks and one above-ground tank. One of the underground tanks is being phased out.

V. Petrochemical Storage (Refer to Table II)

Most petrochemicals are stored in drums in production area warehouses. There is one 6,000 gallon underground tank, T-920, for mineral spirits storage. Hazardous wastes, containing petrochemicals, are stored in drums on the special concrete hazardous waste storage pad, and also in two tanks, T-108 and T-105, which have a concrete dike and concrete pad system to prevent spillage loss.

VI. Storage Containers

- A. All material used in the construction of the storage tanks is suitable for materials being stored.
- B. All buried tanks are adequately protected against corrosion. A periodic level reading is done in order to detect any leakage in the underground storage tanks. A special semi-annual "level-test" will be done on all active underground tanks.
- C. The above ground mobiltherm surge tank undergoes constant checking by operating personnel. Also, an inspection form is filled out by an engineer every month.
 - 1. This surge tank is located next to one of the drainage ditches as outlined in Section III.
- D. The hazardous waste storage drums and tanks are inspected weekly as per RCRA regulations.

VII. Facility Transfer Operations, Piping, and In-Plant Process

- A. All piping containing oil or critical materials is above ground.
- B. All piping supports and pipe racks are designed to meet the U.S.A.S. B31 1.0 Standards.
- C. All piping and valving is continually inspected by operating personnel.
- D. All vehicles entering the plant are warned of any hazards associated with the areas of the plant to which they will be traveling.
- E. The pumps and other equipment used in the hot oil system are designed for the temperatures involved and pressure up to 300 psi.
- F. Water used in cooling these pumps and related equipment is either retained in the plant closed cooling system or discharged through the API separator described in Section IIIA.
- G. Loading and unloading of oil and critical materials are monitored to avoid spills, and drainage from these areas is controlled by the spill pond.

VIII. Inspections and Records

Any occurrence which involves the loss to the ground of five (5) gallons or more of oil will be recorded. The engineering department inspects all oil use and storage locations monthly as well as the various ponds and ditches for possible contamination.

Any occurrence which involves a loss of the "Reportable Quantity" of any hazardous substance will be reported and recorded, as appropriate.

IX. Security

- A. The entire plant is enclosed by fencing and the River Raisin, and the operation is continuous.
- B. The critical valves and connections used in transfer and circulating are inspected continually.
- C. Facility lighting is adequate to allow early detection of any spill.

X. Personnel Training and Spill Prevention Procedures

All personnel involved in the transfer of oil or chemicals are continually instructed as to the safe and proper procedures to follow. Training will also include the simulation of pollution incidents and contingency plan procedures. All personnel involved in handling materials with pollution potential are instructed to report any loss of control of these materials to their shift foreman. The reporting sequence thereafter is:

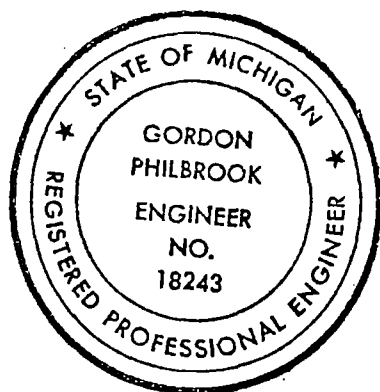
- General Foreman (if available)
- Area Superintendent
- Production Manager
- Environmental Control Coordinator
- Director of Manufacturing
- Vice President and General Manager

Each individual must take preventative or corrective action to the fullest extent of his authority.

The Production Manager or Director of Manufacturing, or his designate, or the Environmental Control Coordinator shall solicit outside help as needed, and will supply notice and pertinent information when necessary to government agencies as their jurisdiction dictates:

Michigan Pollution Emergency Alert System	800-292-4706
Michigan Department of Natural Resources	517-788-9598
Lenawee County Drain Commissioner	263-8831
Lenawee County Sheriff	263-4684
Michigan State Police	263-0033
U. S. Coast Guard (National Response Center)	800-424-8802

See attached instructions for notifying pollution control and other regulatory authorities.



Certified by:

Gordon C. Philbrook

Gordon C. Philbrook
Environmental Control Coordinator
Professional Engineer
State of Michigan
PE 18243
February 3, 1984

GCP:jjf

OIL AND HAZARDOUS SUBSTANCES
SPILL PREVENTION CONTROL AND COUNTER MEASURE PLANTable IList of Oil Storage Tanks
All Underground

<u>Tank</u>	<u>Capacity</u>	<u>Location</u>
T-150 A	30,000 Gal. (1)	North of Boiler House
T-150 B	30,000 Gal. (1)	North of Boiler House
T-80 A	500 Gal.	South of C W Pump House
T-80 B	500 Gal.	South of C W Pump House
T-151	500 Gal.	North of Boiler House

- (1) The two 30,000 gal. oil storage tanks are empty and are inactive at the present time (disconnected from system).

List of Gasoline Tanks

<u>Tank</u>	<u>Capacity</u>	<u>Location</u>
T-921	1,500 Gal. (2)	Underground, East of Hi Bay
---	550 Gal.	Underground, Guard House
---	275 Gal.	Above-ground, Maintenance

- (2) This tank is being emptied and will not be used for gasoline or petrochemical storage.

List of Mobiltherm Storage (Above-Ground)

<u>Item</u>	<u>Capacity</u>	<u>Location</u>
T-158	3,000 Gal.	By Mobiltherm Furnaces
Storage Pad	12 Drums	South of T-101

GCP
2/03/84

OIL AND HAZARDOUS SUBSTANCES
SPILL PREVENTION CONTROL AND COUNTER MEASURE PLAN

Table II
List of Petrochemicals Storage

<u>Petrochemical</u>	<u>Container</u>	<u>Average Storage, Lbs.</u>	<u>Location</u>
Mineral Spirits	T-920	24,000	04, Underground
Mineral Spirits	55 gal. drum	32,700	03/04/05
Naphthas	55 gal. drum	30,700	03/04/05
Hydrocarbons	55 gal. drum	4,600	04
Xylene	55 gal. drum	1,500	03
Olefins	55 gal. drum	11,300	03/04
Mineral Spirit Waste	55 gal. drum	50,000	04
Bulk Mineral Spirit Waste	T-108	75,000	32
Ignitible Solvents Waste	55 gal. drum	50,000	04
Bulk Ignitables Waste	T-105	75,000	32

GCP
2/03/84

OIL AND HAZARDOUS SUBSTANCES:
SPILL PREVENTION CONTROL AND COUNTER MEASURE PLAN

Department _____ Date _____ Time _____

	<u>Yes</u>	<u>No</u>
1. Floors and drain ditches clean?		
2. Nozzles, fittings, and lines to storage tanks free from leaks?		
3. Insulated tanks show no signs of leakage?		
4. Operating oil pumps seals free from leaks?		
5. Tank supports in good condition?		
6. Have all leaks and unusual conditions been reported to Production Manager immediately?		

Inspected by: _____

Additional remarks: _____

_____OHSSPCIR
February 3, 1984

LEGEND
 — STORM DRAIN
 SYSTEM
 --- CHEMICAL SEWER
 SYSTEM
 SF - SAND FILTER

SWITCH HOUSE

GUARD
CHANGE
HOUSE

GASOLINE

WAREHOUSE

H.C.R.

HWM
WASTE
STORAGE
TANKS

T-108
T-101
T-105

DMBL

STORAGE
BLDG.

R.T.V.

DRUM
BLDG.

UTILITY BLDG.

CONTROL
BLDG.

R.T.V.

R.T.V.
STOR.

H.C.R.
STOR.

H.C.R.
STOR.

POLYMER

OIL

MBL

STORAGE
BLDG.

PEROXIDE
STORAGE

GAS
SOLVENT
STORAGE

SHOP

PILOT
PLANT

MINERAL
SPIRITS

HWM WASTE
STORAGE PAD

BLACK
HOUSE

STORAGE
BLDG.

S.P.C.C.
SPILL CONTROL
LAGOON

SEWAGE
TREATMENT
PLANT

EQUALIZATION
POND

PUMP
HOUSE

COOLING

PONDS

TO WEIR

TO WEIR

002

001

In a transportation accident reporting to pollution control agencies and other regulatory authorities is the responsibility of the carrier. Therefore, any required notifications should be made by the carrier. Be certain to advise the carrier of these responsibilities.

Spills of oils and many chemicals, or other releases of these materials to air, water or the ground, have to be reported under various federal laws. In addition state and local rules may apply, and there is the obvious need to notify local authorities in order to protect life and property and to advise of actions taken to minimize potential for injury to persons and the environment. All remedial action possible should be taken to minimize the impact of any release.

Noxious Gases - If the release is of sufficient size it may require immediate evacuation of nearby people and animals downwind. In such case, immediately notify the nearest police agency or fire department for assistance. Also notify local or state pollution control authorities of what has happened, what material is involved and what steps have been taken to minimize injury to humans and the environment.

Oil Spills which reach any body of water are to be reported immediately by radio or phone to the National Response Center 800-424-8802. Additionally these reports should be made to local authorities.

Hazardous Chemicals as defined by any federal regulation are to be reported to the National Response Center when any loss to the environment (air, water or ground) exceeds the "Reportable Quantity." Hazardous chemical "spills" may be solid, liquid or gaseous. The Reportable Quantity varies from 1 lb. to 5,000 lbs. depending upon the material.

Stauffer personnel seeking assistance in determining reportability based on amount released or questions of when, how or who to notify at a regulatory agency call the Environmental Control Department at Westport 203-222-3228. During non-business hours call:

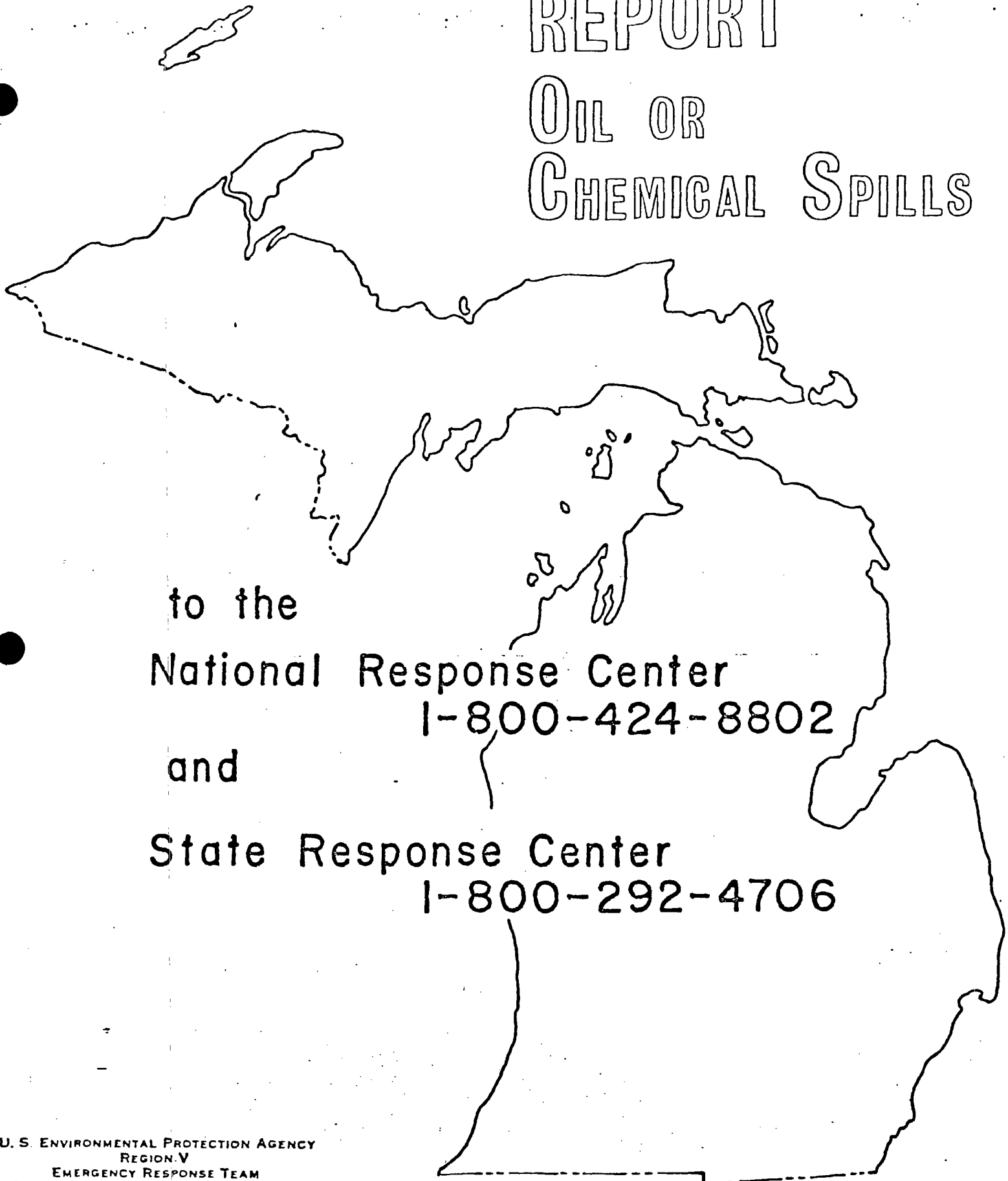
D. McGrade	203-264-9957 or
T. J. Sayers	203-874-2858 or
J. D. Sheehan	203-375-4107

IN THIS AREA

Date: 02/03/84
Revision No.: 1

REPORT

OIL OR CHEMICAL SPILLS



to the
National Response Center
1-800-424-8802
and
State Response Center
1-800-292-4706

U. S. ENVIRONMENTAL PROTECTION AGENCY
REGION V
EMERGENCY RESPONSE TEAM

ROSS E. POWERS
OIL AND HAZARDOUS MATERIALS COORDINATOR

App. D-12

SWS SILICONES CORPORATION
RCRA HAZARDOUS WASTES

Personnel Training Plan

- I. RCRA Requirements on Personnel Training
 - A. Personnel file
 - B. Annual requirement
- II. Types of Covered Wastes
 - A. RCRA Classifications - Definitions
- III. SWS Silicones - Covered Wastes
 - A. RCRA Classifications
- IV. Waste Analysis Plan
 - A. Sampling, Analyses
- V. Covered Waste Descriptions
 - A. Locations
- VI. Handling Procedures
- VII. Protective Equipment
- VIII. Labeling
 - A. Hazardous Waste Labels
- IX. Contingency (Disaster Plan)
 - A. Alarm Procedures
 - B. Notification Procedures
- X. Inspection Records
- XI. Recordkeeping

RCRA

WASTE CLASSIFICATIONS

Ignitable

D001

Corrosive

D002

Reactive

D003

EP Toxic

DXXX

Hazardous Wastes from Non-Specific Sources

F002, F003

COVERED WASTES

<u>WASTE NO.</u>	<u>WASTE NAME</u>	<u>AREA</u>
1	Mixed Alcohol	Hi Bay
2	HC, Extremely Flammable	Hi Bay
3	HC, Flammable	Hi Bay
4	HC, Combustible	Hi Bay
5	Solvent Waste, Tech Center	Tech Center
7	Solvent Sumpwaste	Polymers
8	Mineral Spirits	RTV
12	ES 40 Lites	Hi Bay
30	SWS-960	RTV
10	Polychlorohydrocarbon	Hi Bay
11	Non-Flammable, Tech Center	Tech Center
19	Cyclizer	Polymers
32	HCR Vent	HCR
See 3	Mobiltherm Lites	Utility
--	Ignitables, Bulk	T-105 - Hi Bay
--	Mineral Spirits, Bulk	T-108 - RTV
--	1,1,1 trichloroethane, Bulk	T-101 - Hi Bay

NON-COVERED WASTES
(for reference only)

6	Chemical Sewer	Utility
13	Emulsion and R/A	Hi Bay & Tech Ctr.
26	Tire Paint	Hi Bay
27	Mobiltherm	Utility
14	RTV II	RTV
15	Mica and Talc	Hi Bay
16	Cured RTV	RTV
18	Inert Filter Cake	Polymers
23	RTV I	RTV
24	Band Ply Lube	Hi Bay

TABLE I

Date: 5/31/83
Revision No.: 0Covered Wastes

<u>EPA Hazard Waste #</u>	<u>Material</u>	<u>Container</u>	<u>Lbs. Storage</u>	<u>Lbs./yr. Amount</u>
F002	<u>Contains 1,1,1-trichloroethane</u>			
	# 10 Polychlorohydrocarbon	Drums or T-101	(1) 240,000	550,000 -----
	# 11 Non-flammable, Tech Center	Drums	(1)	20,000
	Subtotal			<u>570,000</u>
F003	<u>Contains acetone, methanol, xylene</u>			
	# 5 Solvent, Tech Center	Drums	(1)	30,000
	# 3 HC Flammable (Some)	Drums	(1)	10,000
	# 1 Mixed Alcohol Waste	Drums	(1)	30,000
	Subtotal			<u>70,000</u>
D001	<u>Ignitables</u>			
	# 2 HC, Extremely Flammable	Drums	(1)	36,000
	# 3 HC, Flammable (Some)	Drums	(1)	28,000
	# 4 HC, Combustible	Drums	(1)	48,000
	# 7 Solvent Sump	Drums	(1)	99,000
	# 8 RTV Mineral Spirits	Drums	(1)	240,000
	#12 ES40 Lites	Drums	(1)	3,000
	#30 SWS-760	Drums	(1)	10,000
	#32 HCR Vent	Drums	(1)	80,000
	<u>OR Items 1, 2, 3, 4, 8 and 12</u>	<u>T105, T108</u>	<u>290,000</u>	-----
	Subtotal		-----	<u>544,000</u>
D002	<u>Corrosives</u>			
	#19 Cyclizer Waste	Drums	(1)	140,000
	Subtotal			<u>140,000</u>
	TOTALS		<u>680,000</u>	<u>1,324,000</u>

Notes:

- (1) Total drum storage estimated at 300 drums (about 150,000 lbs.).
Drum storage limited by Act 64 (diking for 150%).

SWS SILICONES CORPORATION

RCRA HAZARDOUS WASTES
PERSONNEL TRAINING

Slide 1

We are here to discuss the new EPA law on hazardous waste management which was passed on May 19, 1980 and went into effect on November 19, 1980. This is the RCRA Act (Resource Conservation and Recovery Act).

This Act says that all personnel who handle hazardous waste must receive training by May 19, 1981. New employees must receive training within six months. Any employee who has not received the training can not handle hazardous wastes, unless supervised. Also the training must be repeated annually.

In order to verify the training, a form will be put in your personnel files indicating when you last had the training and on what hazardous wastes. That is why it is important to sign the attendance list provided.

Slide 1 shows the outline of subjects to be discussed today. This will take about 40 minutes.

Slide 2

The RCRA Act has classified four categories of wastes and also has various lists of chemicals. If a waste is on any of the lists, it is a hazardous waste.

Ignitable (D001). If the flash point is below 140° F. Flash point is the temperature at which a liquid will ignite, if there is an open flame or spark present. Most of our wastes are hazardous because of this classification.

Corrosive (D002). If the pH is ≤ 2 (very acidic, such as the maintenance condenser wash solution) or if the pH is ≥ 12.5 (very caustic, such as cyclizer waste).

Reactive (D003). This is a solid waste that is unstable, explosive; if it reacts violently with water, if it can give off toxic gases or fumes, if it is a cyanide or sulfide waste, etc. Fortunately, we do not have any such wastes at our plant.

EP Toxicity (DXXX). This is a metals leaching criteria. First a sample of a solid is leached with a pH 5" solution (to simulate rainfall washing thru a buried waste). Then the leach water is analyzed for various heavy metals; arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver; and also for six pesticides, if they could be present. The maximum amount of an item is 100 X the drinking water standard, which is still very low numbers; ppm and ppb range. We do not have any wastes which are this category at our plant.

Non-specific sources. These are chemicals which are on EPA's lists. We do have some of these: 1,1,1 trichloroethane, xylene, acetone (lab only), and methanol. These will be covered in more detail later today.

Slide 3

This is an overall list of the hazardous wastes (RCRA Covered Wastes) which we have at our plant (top table). These will be discussed in more detail later.

Also shown, so you won't think I forgot them, is a list of ten non-hazardous wastes (bottom table). There are no RCRA regulations on these wastes.

Slide 4

This is a list of our hazardous wastes, listed by classification.

The wastes that have an SWS #, such as #10, #1, etc., will be discussed in detail soon.

Note the total maximum storage of hazardous wastes in drums, reported to RCRA, is 300. In actual practice, we will have far less than that. In fact, we presently only have about 100 drums of hazardous wastes at our plant.

Slide 5

This is the Waste Analysis Plan which covers which samples to take, and when, and what "to look for".

- (1) Note that the Tech Center must keep a record of waste analyses for three years. It is important that all waste samples from the plant be labelled properly with a "WASTE SAMPLE" on the tag.

- (2) These six wastes can change a lot, so we need to keep track of them; if the composition changes too much, we may need to get new classifications and new permits.
- (3) We are going to store the Hi Bay solvent, 1,1,1 trichloroethane (also known as methyl-chloroform and as chlorothene NU) in the bulk tank, T-101. This spent solvent will be sold to a solvent reclaimer in Chicago.

We are going to store the Hi Bay and RTV ignitable liquid wastes in T-108 and T-105, respectively. These spent solvents will be shipped to a cement kiln in Ohio, to be used as a fuel there.

Slide 6

This is a description of Waste #1, Mixed Alcohol Waste. This is hazardous due to low flash point, around 70° F. But also this waste may contain methanol, which is on the EPA list, and is classified as F003.

A word about toxicity. There are three kinds - inhalation, dermal, and ingestive. Then there are three levels of toxicity - low (#1), medium (#2) and high (#3). We have no high toxicity wastes at our plant! We do have a few medium toxicity wastes. This waste, Mixed Alcohol, is a low toxicity waste. This comes from the Hi Bay area and will be part of the T-108 bulk system for the cement kiln fuel.

Slide 7

This is a description of waste #2; Hydrocarbon Waste - Extremely Flammable. This is hazardous due to low flash point (30° F.). This waste is a low toxicity waste. This comes from the Hi Bay area and will go to the T-108 bulk tank.

Slide 8

This is a description of waste #3; Hydrocarbon Waste - Flammable. This has a low flash point (70° F.), but also may contain xylene (F003 type). This is a medium toxicity waste, comes from the Hi Bay area and will also go to the T-108 bulk tank.

Slide 9

This is a description of waste #4; Hydrocarbon Waste - Combustible. This has a low flash point (110° F.). This is a medium toxicity waste, comes from the Hi Bay area and will also go to the T-108 bulk tank.

Slide 10

This is a description of waste #5; Solvent Waste - Tech Center. This is hazardous due to low flash point (70° F.), but may also contain xylene or acetone (F003 type). This waste is a medium toxicity waste. This comes from the Tech Center and will be sent out in drums to be incinerated. In the future, we may see if we can combine this waste in the bulk tanks, T-108.

Slide 11

This is a description of waste #7; Solvent Sump Waste. This is hazardous due to the low flash point (100° F.). This is a medium toxicity waste. This comes from the Polymers area and will be sent out in drums to be incinerated.

Slide 12

This is a description of waste #8; Mineral Spirit Waste. This is hazardous due to the low flash point (109° F.). This is a low toxicity waste, comes from the RTV area, and will go to the T-105 bulk tank.

Slide 13

This is a description of waste #10; Polychlorohydrocarbon Waste. (Also known as 1,1,1 trichloroethane or chloroethene NU or methyl chloroform). This is hazardous due to being on the EPA list (F002). This is a medium toxicity waste, comes from the Hi Bay area, and goes to the T-101 bulk tank, for reclaiming in Chicago.

Slide 14

This is a description of waste #11; Non-Combustible Waste, Tech Center. This is hazardous because it contains some 1,1,1 trichloroethane solvent (F002 type). This is a medium toxicity waste, comes from the Technical Center, and will be shipped out in drums for incineration.

Slide 15

This is a description of waste #12; ES-40 Lites Waste. This is hazardous due to low flash point (70° F.). This is a low toxicity waste, comes from the Hi Bay area and will be sent to the T-108 bulk tank.

Slide 16

This is a description of waste #19; Cyclizer Waste. This is hazardous mainly because of very high pH (> 13 , i.e., very caustic), but also because of the solvent, the flash point is low (132° F.). This is a low toxicity waste, comes from the Polymers area, and must be sent out in drums for secured-landfill burial.

Slide 17

This is a description of waste #30; SWS-960 Waste. This is hazardous due to low flash point (65° F.). This is a medium toxicity waste, comes from the RTV area, and is sent out in drums for secured-landfill burial or possibly incineration.

Slide 18

This is a description of the waste in the T-101 bulk tank. This solvent will be sent out, by bulk truck, to a solvent reclaimer in Chicago.

Slide 19

This is a description of the waste in the T-108 bulk tank. These solvents will be sent out, by bulk truck, to a cement kiln in Ohio.

Slide 20

This is a description of the waste in the T-105 bulk tank. This solvent will also be sent out, by bulk truck, to a cement kiln in Ohio.

(Back to) Slide 1, for rest of training.

Handling Procedures and Protective Equipment

These procedures should be provided on an "every day" basis by your foremen and supervisors. The same techniques used to handle plant chemicals (acids, solvents, raw materials, etc.) would be used for these hazardous wastes. This would include grounding, clothing, equipment, etc.

Labeling

It is required by law to properly label the drums before putting them on the storage pad. This includes the name label (white label for each type of waste), the red flammability label (if flash point is below 100° F.) and the corrosive label (if the material is corrosive; like cyclizer waste).

The warehouse personnel will put the yellow "HAZARDOUS WASTE" label on the drum during 'staging' since they must write the manifest number on the label. All hazardous wastes must have the yellow label before shipment.

Contingency Plan

Again, these procedures should be provided on an "every-day" basis by your foremen and supervisors. You should know what to do and how to sound the alarm for any fire, explosion, spill, etc.

There are some changes being made concerning "sounding the alarm". Six telephones are being installed in the outer areas of the plant, so you can use the "181" or "222" alarm method, easier and quicker.

1. pump house
2. API separator - pH meter house
3. New waste wash-water treating building
4. Nitrogen storage tanks (by the 3 solvent storage tanks)
5. Solid storage building, NE corner of plant

Also, we have reactivated the boiler house steam whistle. Also, we are installing air/nitrogen horns in various plant areas.

In case of any disaster or emergency, sound the alarm! Then contact a supervisor, and start the disaster procedure.

Inspection Records and Record keeping

We are required by law to keep a log book on each of the tanks involved in hazardous waste handling.

Also we have inspection books on each of the tanks and on the drum storage area.

G. C. Philbrook
May 1981
Revised February 1983

Attachment: 20 slides

Closure Plan
*****I. Tanks

It is estimated that the tanks will require closure in about 20 years, (2001). Generally, tanks containing hazardous waste materials will be emptied to tank trucks for removal and disposal of contents. Only Michigan, US EPA, and Stauffer-approved haulers will be used. Only US EPA and Stauffer-approved disposers will be used.

Tanks and ancillary equipment will then be decontaminated by washing the tank, piping, pump, and associated equipment with three increments of water and industrial detergent. The washing agent will be recirculated and pumped by high pressure lance. Washings will be put in drums for disposal by an approved hauler and disposer.

The tanks, piping, and associated equipment will then be purged with air. The entire schedule of closure should take about 4 months.

The tanks can then be used for other purposes than to store hazardous wastes.

An independent professional engineer will certify completion of the closure.

II. Drum Storage

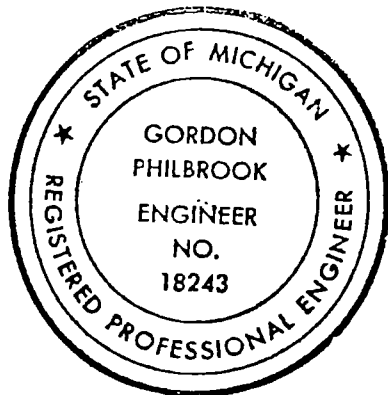
It is estimated that the storage pad will require closure in about 40 years, (2021). Generally, drum storage areas will be emptied by the removal of the drums to an approved disposer. Only Michigan, US EPA and Stauffer-approved haulers will be used. Only US EPA, Stauffer and possibly Michigan, approved disposers will be used.

The drum pad will be washed with water and industrial detergent. Washings will be put in drums for disposal by an approved hauler and disposer, if contaminated. Otherwise, the washings will go to the chemical sewer. The entire schedule of closure should take about 3 months.

After thorough decontamination, the storage pad will be used for other uses than for storage of hazardous wastes.

An independent professional engineer will certify completion of the closure.

See attached forms for closure plan tanks and drum storage areas.



Certified by

Gordon C. Philbrook

Gordon C. Philbrook
SWS SILICONES CORPORATION
Environmental Control Coordinator

Professional Engineer
State of Michigan
PE 18243

May 3, 1981

Revised February 9, 1983

Revised January 30, 1984

SWS SILICONES CORPORATION

CLOSURE PLAN

Tanks

DATE 5/3/81 TAG NO. T-101

CAPACITY 25,000 gallon MATERIAL OF CONSTRUCTION steel

MAXIMUM USUALLY STORED 10,000 gallon

MISCELLANEOUS horizontal; 200 PSIG pressure rating, 4" breathing
vent with nitrogen pad

NATURE OF CONTENTS 1,1,1 trichloroethane waste solvent

UNLOADING METHOD Wilden pump thru a GAF-type filter to a
bulk truck

WHEN CLOSED unknown, estimated 20 years (2001)

CLOSURE COST \$5,290

SWS SILICONES CORPORATION

CLOSURE PLAN

Tanks

DATE 5/3/81 TAG NO. T-105

CAPACITY 14,900 gallon MATERIAL OF CONSTRUCTION steel

MAXIMUM USUALLY STORED 9,000 gallon

MISCELLANEOUS vertical, 3" vac/0.5 PSIG pressure rating, 4"

breathing vent w/nitrogen pad; 8" relief valve

NATURE OF CONTENTS various Hi Bay ignitable waste solvents

UNLOADING METHOD Wilden pump thru a GAF-type filter to a

bulk truck

WHEN CLOSED unknown, estimated 20 years (2001)

CLOSURE COST \$5,810

SWS SILICONES CORPORATION

CLOSURE PLAN

Tanks

DATE 5/3/81 TAG NO. T-108

CAPACITY 14,900 gallon MATERIAL OF CONSTRUCTION steel

MAXIMUM USUALLY STORED 9,000 gallon

MISCELLANEOUS vertical, 3" vac/0.5 PSIG pressure rating, 4" breathing
vent w/nitrogen pad; 8" relief valve

NATURE OF CONTENTS RTV mineral spirits waste solvent

UNLOADING METHOD Wilden pump thru a GAF-type filter to a
bulk truck

WHEN CLOSED unknown, estimated 20 years (2001)

CLOSURE COST \$5,810

SWS SILICONES CORPORATION

CLOSURE PLAN

Drum Storage Area

DATE 5/3/81 AREA 2,500 Ft²

AREA DESCRIPTION Hazardous Waste pad; E of Hi Bay area

MAXIMUM NUMBER OF DRUMS USUALLY STORED 500

WHEN CLOSED unknown, estimated 40 years (2021)

CLOSURE COST \$44,500

TOTAL CLOSURE COST

T-101	\$ 5,290
T-105	5,810
T-108	5,810
East pad	<u>44,500</u>
TOTAL	\$61,410

COST ESTIMATE, TANKS:

T-101

1. Sell 10,000 gallon (but, no credit)	\$ 0
2. Freight, 3 x \$900	2,700
3. Cleaning solvent	1,210
4. Solvent disposal	360
5. Two (2) operators	780
6. Cleaning pump	<u>240</u>
NET COST	\$5,290

T-105 (& T-108)

1. Haul by Systech 9,000 gal x \$.423/gallon	\$3,810 each
2. Cleaning solvent	730
3. Two (2) operators	730
4. Solvent disposal	300
5. Cleaning pump	<u>240</u>
NET COST	\$5,810 each

Drum Pad

1. Remove drums 500 x \$85	\$42,500
2. Decontamination	<u>2,000</u>
	\$44,500

SWS SILICONES CORPORATION

Closure Plan

1982 Addendum

$$\text{Inflation adjustment factor} = \frac{193.58}{177.36} = 1.091$$

$$\text{Closure Cost} = \$56,990 \times 1.091 = \$62,180$$

GCP
2/18/82

SWS SILICONES CORPORATION

Closure Plan

1983 Addendum

$$\text{Inflation adjustment factor} = \frac{207.23}{195.51} = 1.06$$

$$\text{Closure Cost} = \$62,180 \times 1.06 = \$65,910$$

SWS SILICONES CORPORATION

CLOSURE PLAN

1984 Addendum

$$\text{Inflation adjustment factor} = \frac{216.37}{206.88} = 1.0458$$

$$\text{Closure Cost} = \$65,910 \times 1.0458 = \$68,930$$

APPENDIX G

LETTER OF CREDIT, TRUST AGREEMENT AND LIABILITY INSURANCE CERTIFICATE

BCC: L. B. Bruner
W. P. Pagano
W. J. Raver
G. C. Philbrook
C. J. Miley

October 6, 1982

Regional Administrator
Region V
U.S. EPA
230 South Dearborn Street
Chicago, Illinois 60604

Re: RCRA Financial Requirements

Dear Sir:

On June 30, 1982, Alexander & Alexander of New York, Inc. wrote your office to inform you of their intended effort to secure closure cost (\$62,200) insurance coverage for our facility (MID075400671, SWS Silicones Corporation, Sutton Road, Adrian, Michigan 49221). Subsequently, we have determined that it would be better to satisfy our RCRA financial assurance requirements through use of a Letter of Credit and Standby Trust Fund. We have secured this coverage and have had the following documents submitted to you by Continental Illinois National Bank, as evidence, and for your information and use:

1. A Letter of Credit for \$62,200 (LC#6234888), issued by Continental Illinois National Bank, dated 10/4/82.
2. An "Originally Signed Duplicate" of the Standby Trust Agreement between SWS Silicones and Continental Illinois National Bank.

If you have any questions regarding this submission, please call us.

Very truly yours,

SWS SILICONES CORPORATION

J. Calamungi
Director of Manufacturing

JC:pm

CERTIFIED MAIL



IRREVOCABLE DOCUMENTARY CREDIT NUMBER 6234888

APPLICANT

SWS SILICONES CORPORATION
3901 SUTTON ROAD
ADRIAN, MICHIGAN 49221

BENEFICIARY

ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN STREET
CHICAGO, ILLINOIS 60604

AMOUNT

US\$ 62,200.00
SIXTY TWO THOUSAND TWO
HUNDRED AND 00/100
U.S. DOLLARS

EXPIRY

10-05-83
October 05, 1983
AT OUR COUNTERS

DEAR SIR(S),

We hereby establish our Irrevocable Standby Letter of Credit No. 6234888 in your favor, at the request and for the account of SWS Silicone Corporation up to the aggregate amount of Sixty-Two Thousand Two Hundred U.S. Dollars 62,200.00, available upon presentation of;

- (1) Your sight draft, bearing reference to this letter of credit No. 6234888, and;
- (2) Your signed statement reading as follows: "I certify that the amount of the draft is payable pursuant to regulations issued under authority of the Resource Conservation and Recovery Act of 1976 as amended."

This letter of credit is effective as of October 5, 1982, and shall expire on October 5, 1983, but such expiration date shall be automatically extended for a period of one year on October 5, 1983, and on each successive expiration date, unless, at least 120 days before the current expiration date, we notify both you and SWS Silicone Corporation by certified mail that we have decided not to extend this letter of credit beyond the current expiration date. In the event you are so notified, any unused portion of the credit shall be available upon presentation of your sight draft for 120 days after the date of receipt by both you and SWS Silicone Corporation, as shown on the signed return receipts.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us, and we shall deposit the amount of the draft directly into the standby trust fund of SWS Silicone Corporation in accordance with your instructions.

We certify that the wording of this letter of credit is identical to the wording specified in 40 CFR 264.151(d) as such regulations were constituted on the date shown immediately below.

Please be advised that there have been no changes to date in the wording for trust agreements set forth in 40 CFR 264.151(a)(1) from that shown in Federal Register, Vol. 47 No. 67 dated April 7, 1982.

We hereby engage with you that your drawings in conformity with the terms of this letter of credit will be duly honored on presentation.

** This documentary credit is subject to the "Uniform Customs and Practice for Documentary Credits" (1974 revision) International Chamber of Commerce (Publication No. 290).

CONTINENTAL ILLINOIS NATIONAL BANK AND TRUST COMPANY OF CHICAGO

[Signature]
For Cashier

[Signature]
For Cashier

** GLC:djs **

TRUST AGREEMENT

WASTE MANAGEMENT
Trust Agreement, the ^{ANCH} "Agreement" entered into as of October 4,

1982 by and between SWS Silicones Corporation, a Delaware corporation, the Grantor, and Continental Illinois National Bank & Trust Co. of Chicago, a national banking corporation, the "Trustee."

WHEREAS, the United States Environmental Protection Agency, "EPA", an agency of the United States Government, has established certain regulations applicable to the Grantor, requiring that an owner or operator of a hazardous waste management facility shall provide assurance that funds will be available when needed for closure and/or post-closure care of the facility.

WHEREAS, the Grantor has elected to establish a trust to provide all or part of such financial assurance for the facilities identified herein.

WHEREAS, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement and the Trustee is willing to act as trustee.

Now, Therefore, the Grantor and the Trustee agree as follows:

Section 1. Definitions.

As used in this Agreement:

(a) The term "Grantor" means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. Identification of Facilities and Cost Estimates.

This Agreement pertains to the facilities and cost estimates identified on attached Schedule A.

Section 3. Establishment of Fund.

The Grantor and the Trustee hereby establish a trust fund, the "Fund" for the benefit of EPA. The Grantor and the Trustee intend that no third party have access to the Fund except as herein provided. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by EPA.

Section 4. Payment for Closure and Post-Closure Care.

The Trustee shall make payments from the Fund as the EPA Regional Administrator shall direct, in writing to provide for the payment of the costs of closure and/or post-closure care of the facilities covered by this Agreement. The Trustee shall reimburse the Grantor or other persons as specified by the EPA Regional Administrator from the Fund for closure and post-closure expenditures in such amounts as the EPA Regional Administrator shall direct in writing. In addition, the Trustee shall refund to the Grantor such amounts as the EPA Regional Administrator

SCHEDULE A

This Agreement demonstrates financial assurance for the following cost estimates for the following facility.

<u>U.S. EPA I.D.#</u>	<u>Facility Name & Address</u>	<u>Cost Estimates for Which Financial Assurance is Being Demonstrated by This Agreement</u>
MID075400671	SWS Silicones Corp. Sutton Road; Adrian, Michigan 49221	Closure \$62,200

The cost estimate listed here was last adjusted on February 18, 1982.

SCHEDULE B

The fund is established initially as consisting of \$1.00; and a standby letter of credit with Continental Illinois in the amount of \$62,200.

specifies in writing. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

Section 5. Payments Comprising the Fund.

Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management.

The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

(i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), shall not be acquired or held, unless they are securities or other obligations of the Federal or a State government;

(ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee to the extent insured by an agency of the Federal or State government; and

(iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment.

The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee.

Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition.

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depository with other securities deposited therein by another person or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses.

All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursement of the Trustee shall be paid from the Fund.

Section 10. Annual Valuation.

The Trustee shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the appropriate EPA Regional Administrator a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the EPA Regional Administrator shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel.

The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation.

Date: 5/31/83
Revision No.: 0

The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee.

The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the EPA Regional Administrator, and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee.

All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor

may designate by amendment to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the EPA Regional Administrator to the Trustee shall be in writing, signed by the EPA Regional Administrators of the Regions in which the facilities are located, or their designees, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or EPA hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or EPA, except as provided for herein.

Section 15. Notice of Nonpayment.

The Trustee shall notify the Grantor and the appropriate EPA Regional Administrator, by certified mail within 10 days following the expiration of the 30-day period after the anniversary of the establishment of the Trust, if no payment is received from the Grantor during that period. After the pay-in period is completed, the Trustee shall not be required to send a notice of nonpayment.

Section 16. Amendment of Agreement.

This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the appropriate EPA Regional Administrator, or by the Trustee and the appropriate EPA Regional Administrator of the Grantor ceases to exist.

Section 17. Irrevocability and Termination.

Subject to the right of the parties to amend this Agreement as provided in Section 16, the Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the EPA Regional Administrator, or by the Trustee and the EPA Regional Administrator, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

Section 18. Immunity and Indemnification.

The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the EPA Regional Administrator issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 19. Choice of Law.

This Agreement shall be administered, construed, and enforced according to the laws of the State of California.

Section 20. Interpretation.

As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive

Date: 5/31/83
Revision No.: 0

headings for each Section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

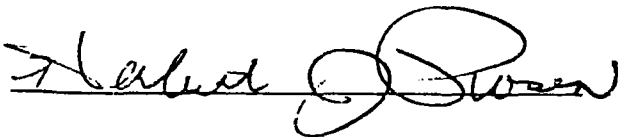
In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written. The parties below certify that the wording of this Agreement is identical to the wording specified in 40 CFR 264.151(a)(1) as such regulations were constituted on the date first above written.

SWS SILICONES CORPORATION

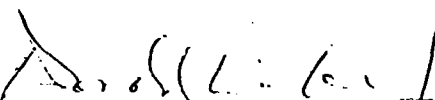
By: 

Title: V.P. and GENERAL MANAGER

Attest:

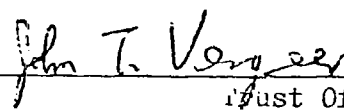


CONTINENTAL ILLINOIS
NATIONAL BANK & TRUST
COMPANY OF CHICAGO

By: 

Title: Vice President

Attest:


Trust Officer

STATE OF MICHIGAN)
COUNTY OF LENAWEЕ)

The foregoing instrument was acknowledged before me
this 17th day of September, 1982 by L. B. Bruner, an
officer of SWS Silicones Corporation, a
Delaware corporation, on behalf of the corporation.

Priscilla M. Wilt
Notary Public

Lenauee County, Michigan

My Commission Expires

PRISCILLA M. WILT

Notary Public

LENAWEE COUNTY, MI
MY COMM. EXPIRES 7-16-85

EXHIBIT A

GRANTOR: STAUFFER CHEMICAL COMPANY

TRUSTEE: CONNECTICUT BANK & TRUST CO.

List of personnel authorized by Grantor to issue orders,
requests and instructions to Trustee:

Any two of the following Stauffer personnel
Director, Environmental Control
Assistant Treasurer
Assistant Director, Law Dept.



Stauffer Chemical Company

Westport, Connecticut 06881 / Tel. (203) 222-3000 / Cable "Staufferchem"

Date: 5/31/83
Revision No.: 0

CERTIFIED MAIL, RETURN RECEIPT REQUESTED

July 9, 1982

Regional Administrator
Region V
U. S. Environmental Protection Agency
230 South Dearborn Street
Chicago, Illinois, 60604

Re: RCRA Financial Requirements

Dear Sir:

In accordance with Section 265.147 of the April 16, 1982 amendments to RCRA, we are hereby submitting a signed duplicate Certificate of Liability Insurance as demonstration of liability coverage for the following Stauffer hazardous waste management facility which is located in a state in your region that does not have RCRA Phase I authorization:

° MID075400671; SWS Silicones Corp., Sutton Road, Adrian, MI 49211

If you have any questions regarding the enclosed material, please call me at 203-222-3230.

Sincerely,

William P. Pagano/rcg

W. P. Pagano, Administrator
Environmental Control Dept.

WPP/rcg
Attachment

cc: J. Calamungi
G. Philbrook ✓
W. Winans

JUL 15 1982

(This Certificate of Insurance neither affirmatively nor negatively amends, extends or alters the coverage, limits, terms or conditions of the policies it certifies.)

HAZARDOUS WASTE FACILITY
CERTIFICATE OF POLLUTION LIABILITY INSURANCE

1. Insurance Company of North America, (the Insurer) of
1600 Arch Street Philadelphia, PA, hereby certifies that it has issued
pollution liability insurance covering bodily injury and property damage to Stauffer Chemical Company

(the Insured), of Westport, Connecticut, in connection
with the Insured's obligation to demonstrate financial responsibility under 40 CFR 264.147 or 265.147. The coverage applies at

SWS Silcones Corp.

Sutton Road, Adrian, MI 49211

MI0075400671

for sudden accidental occurrences

The limits of liability are \$ 1,000,000 and \$ 2,000,000 annual aggregate,
exclusive of legal defense costs. The coverage is provided under policy number ISLG00025380 issued on 1/15/82
The effective date of said policy is 1/15/82

The insurance hereby certified is either primary or excess insurance, as indicated by "X" for the limits shown:

☒ The insurance hereby certified is primary and the Insurer shall not be liable for amounts in excess of
\$ 1,000,000 and \$ 2,000,000 annual aggregate, exclusive of legal defense costs.

☐ The insurance hereby certified is excess and the Insurer will not be liable for amounts in excess of
\$ _____ and \$ _____ annual aggregate, exclusive of legal defense costs,
in excess of the underlying limits of \$ _____.

2. The Insurer further certifies the following with respect to the insurance described in Paragraph 1:

- (a) Bankruptcy or insolvency of the Insured shall not relieve the Insurer of its obligations under the policy.
- (b) The primary Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the Insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in 40 CFR 264.147 (f) or 265.147 (f).
- (c) Whenever requested by a Regional Administrator of the U.S. Environmental Protection Agency (EPA), the Insurer agrees to furnish to the Regional Administrator a signed duplicate original of the policy and all endorsements.
- (d) Cancellation of the insurance, whether by the Insurer or the Insured, will be effective only upon written notice and only after the expiration of sixty (60) days after a copy of such written notice is received by the Regional Administrator(s) of the EPA Region(s) in which the facility(ies) is (are) located.
- (e) Any other termination of the insurance will be effective only upon written notice and only after the expiration of thirty (30) days after a copy of such written notice is received by the Regional Administrator(s) of the EPA Region(s) in which the facility(ies) is (are) located.

I hereby certify that the wording of this instrument is identical to the wording specified in 40 CFR 264.151 (j) as such regulation was constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

John Santapaola
(Signature of authorized representative of Insurer)

John Santapaola

(Type name)

Account Manager

Insurance Company of North America

(Title), Authorized Representative of

(Name of Insurer)

127 John Street

New York, New York 10038

(Address of Representative)